

Lewis River Hydroelectric Projects

FERC Project Nos. 935, 2071, 2111, 2213



Little Creek Fish Habitat Restoration - 2015

2018 Annual Report

Lewis River Aquatic Fund Projects



April 2018

Introduction

This 2018 Annual Report prepared by PacifiCorp and the Public Utility District No. 1 of Cowlitz County, Washington (“Cowlitz PUD”) (collectively the “Utilities”) is provided to the Lewis River Settlement Agreement Parties to fulfill the reporting requirement in Article 7.5.3.2 (5) of the Lewis River Settlement Agreement (SA). This report identifies the actions and selection of Aquatic Resource Projects (Resource Projects) to be funded from the Lewis River Aquatic Fund established under terms of the SA (Article 7.5, see **Appendix A**). Although the funding process was managed by the Utilities, the Aquatic Coordination Committee (ACC) provided final approval of funded projects. This report includes only Resource Projects selected from the 2017/2018 funding process, additional projects are expected to be selected and funded annually following the process established by the ACC.

This 2018 report is available to the Public on PacifiCorp’s website at http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Hydro/Hydro_Licensing/Lewis_River/li/ar/2018_LR_AQ_AnnualReport.pdf

Copies of this report are available from PacifiCorp upon request.

Background

PacifiCorp owns the Merwin, Yale, and Swift No. 1 hydroelectric projects on the Lewis River in southwest Washington. Cowlitz PUD owns the Swift No. 2 hydroelectric project, also located on the Lewis River. These projects are operated as a coordinated system by PacifiCorp. On November 30, 2004, the Lewis River Settlement Agreement established the Lewis River Aquatics Fund (Fund). The purpose of the Fund is to support resource protection measures through funding aquatic related projects in the Lewis River basin.

As identified in the SA:

“Resource Projects may include, without limitation, projects that enhance and improve wetlands, riparian, and riverine habitats; projects that enhance and improve riparian and aquatic species connectivity that may be affected by the continued operation of the hydroelectric projects; and projects that increase the probability for a successful reintroduction program upstream of Merwin Dam. Species that are targeted to benefit from Resource Projects include Chinook, steelhead, coho, bull trout, chum, and sea-run cutthroat.”

Under the direction of the SA, the Utilities in Consultation with the ACC developed the “Aquatics Fund -- Strategic Plan and Administrative Procedures” (September 2005 – Revised January 2009, September 2013 and August 2016). This strategic plan provides: (a) a guide to Resource Project development, solicitation, and review; and (b) provides administrative procedures to guide implementation of the Aquatics Fund.

The strategic plan is available to the Public on PacifiCorp's website at: http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Hydro/Hydro_Licensing/Lewis_River/li/acc/08292016_LR_Rev%20Lewis%20AQ_Fund_Process.pdf

On August 25, 2017, PacifiCorp announced the availability of calendar year (CY) 2017/2018 funds for aquatic related projects in the Lewis River Basin (Letter to interested parties from T. Olson, PacifiCorp, see **Appendix B**). The letter requested that individuals or parties interested in obtaining project funding submit a Pre-Proposal to PacifiCorp. Pre-Proposals were due by September 22, 2017.

In response to the announcement letter, four entities provided four (4) different project Pre-Proposals. They include:

Applicant	Project Title
Salmon Creek Flyfishers	East Fork of LR Side Channel & Mason Creek Development & Maintenance
USDA Forest Service	Lewis River 21 Phase II
Cowlitz Conservation District	Lewis River Reach 2 Side Channel
Fisher Protocols, LLC	Salmon Habitat Baseline Quantification Assessment of the Upper Lewis River Watershed

Following the Aquatics Fund – Strategic Plan and Administrative Procedures, PacifiCorp and Cowlitz PUD reviewed and evaluated the Pre-Proposals and, on September 28, 2017, provided the ACC with a list of projects ready for evaluation and recommendations (Email to ACC from McCune – PacifiCorp, see **Appendix C**).

On October 12, 2017, the ACC selected one (1) project, USDA Forest Service - Lewis River 21 Phase II, to move forward to full proposal, however, a number of ACC representatives were not in attendance. To accommodate those ACC representatives not in attendance, the Utilities provided an additional 7-day comment period until October 24, 2017, see **Appendix D**. Shortly thereafter, PacifiCorp notified the project sponsors and requested full Proposals by December 15, 2017.

Consensus was reached to not select for full proposal:

Applicant	Project Title	Funding Requested	Decision
Salmon Creek Flyfishers	East Fork of LR Side Channel & Mason Creek Development & Maintenance	\$29,400	NO
Cowlitz Conservation District	Lewis River Reach 2 Side Channel	\$155,500	NO

Fisher Protocols, LLC	Salmon Habitat Baseline Quantification Assessment of the Upper Lewis River Watershed	\$200,000	NO
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Upon the due date, one (1) full proposal was submitted by the USDA Forest Service. Following receipt of the proposal the Utilities' distributed the proposal to the ACC for evaluation. Evaluations were conducted as outlined in the *Aquatic Fund – Strategic Plan and Administrative Procedures* document.

Consultation with the ACC began January 11, 2018 with a presentation of the project proposal to include an opportunity for ACC questions and comments. On December 15, 2017, the ACC was provided an email (Subject: REVIEW REQUESTED: Lewis River 21 Phase II Full Proposal; LR 2017/2018 Aquatic Fund), see **Appendix E** containing a link that included a final draft of the USDA Forest Service proposal. The Utilities requested the ACC begin their review and internal staff discussions and come prepared with questions/comments at the January 11, 2018 ACC meeting.

The Utilities submitted the USDA Forest Service final proposal to the ACC via email February 2, 2018 for a 30-day review and comment period (**Appendix F**). A copy of the document can be viewed on the Lewis River website at the following link: http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Hydro/Hydro_Licensing/Lewis_River/li/acc/USFS_AQ_Fund_full_proposal_FINAL-020118REV.pdf

The ACC met March 8, 2018 for an Aquatic Project Proposal Decision Meeting. To accommodate those ACC participants not in attendance, the Utilities provided the Evaluation Criteria and Comment Matrix for an additional 7-day comment period until March 16, 2018 (**Appendix G**).



Photo courtesy of Joel Sartore – National Geographic Photographer

Consensus was reached on a final Resource Project list as follows:

Applicant	Project Title	Approved Funding	Decision
USDA Forest Service	Lewis River 21 Phase II	\$177,000	YES

On March 19, 2018 the Utilities notified all ACC Participants of the selected 2017/2018 Aquatic Funding projects approved for full funding (2017/2018 Lewis River Aquatic Fund Projects, Funding Selection - **Appendix H**).

Project Selected for Funding

The following is a summary description of the individual Resource Project selected to be funded by the Aquatics Fund. The selected Project is expected to promote the recovery of anadromous fish post re-introduction upstream of the Lewis River dams, and the federally listed bull trout which spend a portion of their life history in the Lewis River hydroelectric project reservoirs. Included for the selected project is an overview of the original proposal, any ACC modifications to the project, and identification of Resource Project nexus to the hydroelectric projects. A final Resource Project Plan is provided as an appendix to this document.

Lewis River 21 Phase II – USFS

The project will include construction of four (4) log complexes and place logs along the banks of the north side channel. The two apex large wood structures will result in enhanced large wood deposition as the structures will be designed and built to remain in place and collect additional large wood through time. The two apex large wood structures will also sort and retain gravels in two pool tail crests and create constriction scour in the associated pools. Positioning two south bank structures at opposing locations to the apex jams will increase north bank floodplain connectivity by decreasing channel cross-sectional area and dissipating flow toward the north side (right side looking downstream).

The project objectives to address the problems are:

- Stabilize two naturally occurring large wood depositional areas that were recruited in the December 2015 flood event on mid channel gravel bars;
- Stabilize and increase off channel habitat and increase channel complexity with large wood to improve rearing habitat;
- Stabilize higher elevation terrace banks and improve channel migration processes by distributing flow into side channel;
- Increase floodplain connectivity by displacing flow onto adjacent floodplains during high flow events; and
- Increase available spawning gravel and increase pool depths by sorting and retaining gravels in two pool tail crests and increasing scour in two pools.

The short term benefits of the project will be the immediate juvenile refuge from high flow events in the side channel, floodplain, and large wood structure habitats during the first winter months and future winter flows. Several small channels are present in the lower elevation floodplain area on the north side of the channel that would be reactivated at lower flows than the current mainstem channel conditions will allow. This results in wetted small channels within approximately thirty two acres of floodplain habitat from the top of the project reach downstream during high flows. Long term benefits will include deeper pools maintained by high flow scour, increased spawning gravel habitat from gravel sorting by the added channel roughness and a reduction in channel shear stress at high flows by inundating the adjacent floodplain to the north.

Other benefits both short and long term outcomes would be the reduction in sediment inputs from the stabilization of the eroding bank of the upper terrace while complementing the apex structure to occupy cross-sectional area and to maintain side channel longevity. This would also encourage other natural processes such as channel migration and further side channel development to occur on the adjacent lower elevation floodplain.

ACC representatives agreed to fund this project as proposed and granted funding of \$177,000.

The final Resource Project Plan is provided in **Appendix I** and would be completed in accordance with the schedule below:

NEPA/Permits	March 2018
Project Design	March 2019
Project Implementation	October 2019
Monitoring	December 2021
Site Visit	June 2020 (to be determined by ACC)

Conclusion

This report provides the final CY 2017/2018 Resource Project description and plan for an aquatic project to be funded from the Lewis River Aquatics Fund. Distribution of funds to this project will reduce the current Aquatic Fund - Resource by \$177,000.

According to SA article 7.5.3.2 (5), any ACC member may initiate the Alternative Dispute Resolution Procedures to resolve disputes relating to Resource Projects 30 days after receiving this final report. If no disputes are identified, PacifiCorp and Cowlitz PUD will provide funds to the identified project owners to implement Resource Projects per SA article 7.8.



Lower Lewis River Falls

APPENDIX A
LEWIS RIVER SETTLEMENT AGREEMENT ARTICLE 7.5

7.5 Aquatics Fund. PacifiCorp Energy and Cowlitz PUD shall establish the Lewis River Aquatics Fund (“Aquatics Fund”) to support resource protection measures (“Resource Projects”). Resource Projects may include, without limitation, projects that enhance and improve wetlands, riparian, and riverine habitats; projects that enhance and improve riparian and aquatic species connectivity that may be affected by the continued operation of the Projects; and projects that increase the probability for a successful reintroduction program. The Aquatics Fund shall be a Tracking Account maintained by the Licensees with all accrued interest being credited to the Aquatics Fund. PacifiCorp Energy shall provide \$5.2 million, in addition to those funds set forth in Section 7.1.1, to enhance, protect, and restore aquatic habitat in the Lewis River Basin as provided below. Cowlitz PUD shall provide or cause to be provided \$520,000 to enhance, protect, and restore aquatic habitat in the Lewis River Basin as provided below; provided that Cowlitz PUD’s funds may only be used for Resource Projects upstream of Swift No. 2, including without limitation the Bypass Reach. The Licensees shall provide such funds according to the schedules set forth below.

7.5.1 PacifiCorp’s Contributions.

a. PacifiCorp shall make funds available as follows: on each April 30 commencing in 2005, \$300,000 per year until 2009 (a total of \$1.5 million).

b. For each of the Merwin, Yale, and Swift No. 1 Projects, PacifiCorp shall make one-third of the following funds available as follows after the Issuance of the New License for that Project: on each April 30 commencing in 2010, \$300,000 per year through 2014 (a total of \$1.5 million); on each April 30 commencing in 2015, \$100,000 per year through 2018 (a total of \$400,000); and on each April 30 commencing in 2019, \$200,000 per year through 2027 (a total of \$1.8 million); provided that, for any New License that has not been Issued by April 30, 2009, the funding obligation for that Project shall be contributed annually in the same amounts but commencing on April 30 following the first anniversary of Issuance of the New License for that Project.

c. PacifiCorp shall contribute \$10,000 annually to the Aquatics Fund as set forth in Section 7.1.1.

7.5.2 Cowlitz PUD’s Contributions. Cowlitz PUD shall make or cause to be made funds available as follows: \$25,000 per year on each April 30 following the first anniversary of the Issuance of the New License for the Swift No. 2 Project through the April 30 following the 20th anniversary of the Issuance of the New License for the Swift No. 2 Project (a total of \$500,000); and a single amount of \$20,000 on the April 30 following the 21st anniversary of the Issuance of the New License for the Swift No. 2 Project.

7.5.3 Use of Funds. Decisions on how to spend the Aquatics Fund, including any accrued interest, shall be made as provided in Section 7.5.3.2 below; provided that (1) at least \$600,000 of such monies shall be designated for projects designed to benefit bull trout according to the following schedule: as of April 30, 2005, \$150,000; as of April 30,

2006, \$100,000; as of April 30, 2007, \$150,000; as of April 30, 2008, \$100,000; and on or before the April 30 following the fifth anniversary of the Issuance of all New Licenses, \$100,000; and such projects shall be consistent with bull trout recovery objectives as determined by USFWS; (2) fund expenditures for the maintenance of the Constructed Channel (Section 4.1.3) shall not exceed \$20,000 per year on average; (3) if studies indicate that inadequate “Reservoir Survival,” defined as the percentage of actively migrating juvenile anadromous fish of each of the species designated in Section 4.1.7 that survive in the reservoir (from reservoir entry points, including tributary mouths to collection points) and are available to be collected, is hindering attainment of the Overall Downstream Survival standard as set forth in Section 3, then at least \$400,000 of such monies shall be used for Resource Projects specifically designed to address reservoir mortality; and (4) \$10,000 annually shall be used for lower river projects as set forth in Section 7.1.1. Projects shall be designed to further the objectives and according to the priorities set forth below in Section 7.5.3.1.

7.5.3.1 Guidance for Resource Project Approval and Aquatics Fund Expenditures.

- a. Resource Projects must be consistent with applicable Federal, State, and local laws and, to the extent feasible, shall be consistent with policies and comprehensive plans in effect at the time the project is proposed. These may include, but are not limited to, Washington’s Wild Salmonid Policy, the Lower Columbia River Bull Trout Recovery Plan, and the Lower Columbia River Anadromous Fish Recovery Plan.
- b. The Aquatics Fund shall not be used to fund Resource Projects that any entity is otherwise required by law to perform (not including obligations under this Agreement or the New Licenses for use of the Aquatics Fund), unless by agreement of the ACC.
- c. The Licensees shall evaluate Resource Projects using the following objectives:
 - (1) benefit fish recovery throughout the North Fork Lewis River, with priority to federal ESA-listed species;
 - (2) support the reintroduction of anadromous fish throughout the Basin; and
 - (3) enhance fish habitat in the Lewis River Basin, with priority given to the North Fork Lewis River.

For the purposes of this Section 7.5, the North Fork Lewis River refers to the portion of the Lewis River from its confluence with the Columbia River upstream to the headwaters, including tributaries except the East Fork of the Lewis River.

The Licensees shall also consider the following factors to reflect the feasibility of projects and give priority to Resource Projects that are more practical to

implement:

- (i) Whether the activity may be planned and initiated within one year,
- (ii) Whether the activity will provide long-term benefits,
- (iii) Whether the activity will be cost-shared with other funding sources,
- (iv) Probability of success, and
- (v) Anticipated benefits relative to cost.

7.5.3.2 Resource Project Proposal, Review, and Selection.

(1) By the first anniversary of the Effective Date, the Licensees shall develop, in Consultation with the ACC, (a) a strategic plan consistent with the guidance in Section 7.5.3.1 above to guide Resource Project development, solicitation, and review; and (b) administrative procedures to guide implementation of the Aquatics Fund. Both may be modified periodically with the approval of the ACC.

(2) Any person or entity, including the Licensees, may propose a Resource Project. In addition, the Licensees may solicit Resource Projects proposals from any person or entity.

(3) The Licensees shall review all Resource Project proposals, applying the guidance set forth in Section 7.5.3.1. The Licensees shall provide an annual report describing proposed Resource Project recommendations to the ACC. The date for submitting such report shall be determined in the strategic plan defined in subsection 7.5.3.2(1) above. The report will include a description of all proposed Resource Projects, an evaluation of each Resource Project, and the basis for recommending or not recommending a project for funding.

(4) The Licensees shall convene a meeting of the ACC on an annual basis, no sooner than 30 days and no later than 60 days after distribution of the report set forth in Section 7.5.3.2(2), for Consultation regarding Resource Projects described in the report.

(5) Licensees shall modify the report on proposed Resource Projects, based on the above Consultation, and submit the final report to the ACC within 45 days after the above Consultation. Any ACC member may, within 30 days after receiving the final report, initiate the ADR Procedures to resolve disputes relating to Resource Projects. If the ADR Procedures are commenced, the Licensees shall defer submission of the

final report on Resource Projects to the Commission, if necessary, until after the ADR Procedures are completed. If the ADR Procedures fail to resolve all disputes, the Licensees shall provide the comments of the ACC to the Commission. If no ACC member initiates the ADR Procedures, the Licensees shall submit the final report to the Commission, if necessary, within 45 days after submission of the final report to the ACC.

APPENDIX B

MEMORANDUM DATED AUGUST 24, 2017

LETTER TO INTERESTED PARTIES FROM T. OLSON, PACIFICORP
AVAILABILITY OF FUNDS FOR AQUATIC RELATED PROJECTS

McCune, Kimberly

From: McCune, Kimberly
Sent: Thursday, August 24, 2017 4:05 PM
To: Bill Bakke; Brice Crayne; 'Christine Champe'; Darlene Johnson; Gardner Johnston; Greg Robertson; 'Jim Fisher'; 'jklng@westernrivers.org'; 'Jody Iando'; Noel Johnson; Patrick Lee; Paul Pearce - NFCSC; Pete Barber; Rhidian Morgan; Rudy Salakory; Tammy Weisman; 'Tony Meyer'; 'toppacific2@msn.com'; Amanda Froberg; Amelia Johnson; Asher, Eli; Bob Rose; Bryce Glaser; Bryce Michaelis; David Howe; Doyle, Jeremiah; Ed Meyer; Ferraiolo, Mark; Fish First; Frazier, Patrick A; Hudson, Michael; James Byrne; James H Malinowski; 'Kale Bentley'; Karchesky, Chris; Kelley Jorgensen; Lesko, Erik; Mariah Stoll-Smith Reese; Mark Celedonia; 'Melody Tereski'; 'Michelle Day'; Morgan, David; Nathan Reynolds; Olson, Todd; Peggy Miller; Pienovi, Levi; Roberts, Aaron; 'Ruth Tracy'; Samuel Kolb; Serdar Carol; Shrier, Frank; Steve Manlow; Taylor Aalvik; Tom Wadsworth; Weatherly, Briana; Whitesel, Timothy; Bill Richardson; Bob Nelson; Chartier, Neil - FS; Emmerson, Kendel; Eric Holman; Erik White; John Clapp; Peterman, Summer; Ray Crosswell; 'Weinheimer, John (DFW)'
Subject: RE: 2017/2018 Lewis River Aquatic Fund Announcement
Attachments: 08252017 LR - AQ Fund Announce.pdf; 08252017 LR - Attachment A PreProposal Form.doc; 08252017 LR - Attachment B - Mstr LR Aq Fund Priority Reaches - no bull trout reaches (4).pdf; 08252017 LR - Attachment C Landowner Acknowledgement.doc; 08252017 LR - Attachment D Eval Criteria.doc; 08252017 LR - Attachment E Aquatics Fund Process Timeline.pdf
Importance: High

Attn: Aquatic, Terrestrial Coordination Committees and Interested Parties

Please see the attached Lewis River Aquatic Fund announcement. If you know of other parties that may have an interest in seeking funding, please forward this opportunity.

The deadline for Pre-Proposal Form submission is **September 22, 2017**. Please submit materials to:

Frank Shrier
PacifiCorp
825 NE Multnomah Street, Suite 1500
Portland, OR 97232
frank.shrier@pacificorp.com

Thank you.

Kimberly McCune
Sr. Business Administrator
PacifiCorp – Hydro Resources
825 NE Multnomah St., Suite 1500
Portland, OR 97232
Ph: (503) 813-6078

August 25, 2017

Subject: Availability of Funds for Aquatic Related Projects in the Lewis River Basin

Dear Interested Party,

PacifiCorp owns the Merwin, Yale, and Swift No. 1 hydroelectric projects on the Lewis River in southwest Washington. Public Utility District No. 1 of Cowlitz County, Washington (Cowlitz PUD) owns the Swift No. 2 hydroelectric project, also located on the Lewis River. These projects are operated as a coordinated system. On November 30, 2004, the Lewis River Settlement Agreement established the Lewis River Aquatics Fund (Fund). On June 26, 2008, the Federal Energy Regulatory Commission acknowledged this fund as a stipulation of project operating licenses. The purpose of the Fund is to support resource protection measures via aquatic related projects (Projects) in the Lewis River basin. The Projects are evaluated for funding according to the following objectives as specified in the project operating licenses and the SA:

- (1) *Benefit to fish recovery throughout the North Fork Lewis River, with priority to federal ESA-listed species;*
- (2) *Support of the reintroduction of anadromous fish throughout the Basin; and*
- (3) *Enhancement to fish habitat in the Lewis River Basin, with priority given to the North Fork Lewis River.*

This letter is to provide you the opportunity to submit proposals for Resource Project funding. The total Fund amount available this year is limited to \$1,997,482.96 for Resource Projects. If you know of other entities that may have an interest in seeking funding, please forward this opportunity to them.

The Aquatic Fund Subgroup to the Aquatic Coordination Committee has completed a Lewis River Aquatic Fund Priority Reaches (Priority Reaches, **Attachment B**) document which provides priority rankings for stream reaches within the Lewis River watershed. The Priority Reach rating is a refinement derived from the Lower Columbia Fish Recovery Board (LCFRB) Interactive map which is found on their website at www.lcfrb.gen.wa.us. The interactive maps provide a wealth of information that should help project proponents in selecting areas to focus their habitat improvement efforts. For consideration of funding the proponent must demonstrate that they have reviewed both the Priority Reaches and the LCFRB Interactive map and selected appropriate projects/reaches from those two tools.

To be consistent with certain comprehensive plans such as the *Lower Columbia Salmon Recovery Plan* and the *Washington Department of Fish & Wildlife Subbasin Plan (LCFRB 2010)* relating to Lewis River reintroduction efforts and the recovery of ESA listed threatened salmon and steelhead species, higher priority will be given to Resource Projects that provide for benefits

to Recovery Plan priority fish species and stocks reintroduced to or originating from upstream of Merwin Dam, with emphasis on Spring Chinook. Resource Projects must have specific objectives and expected outcome(s) that help attain the purposes of the Aquatic Fund.

There is also a parallel effort taking place that is addressing recovery needs for bull trout that is not yet complete. Accordingly, funding for bull trout projects will not occur in 2017 but will likely resume in 2018. Additional reaches may be added to the Priority Reaches (**Attachment B**) list in the future.

The selection of Resource Projects will be conducted in two phases. To be considered, applicants must submit a completed Pre-Proposal Form (see **Attachment A** for Form) by close of business **September 22, 2017** and obtain acknowledgement from all owners of land needed to access the proposed Resource Project. Landowner(s) must sign a Landowner Acknowledgement Form (**Attachment C** for Form) indicating they are aware that the project is being proposed on their property.

Pre-Proposals will be evaluated with some Resource Projects appropriately selected for further consideration (see **Attachment D** for evaluation criteria). If selected, applicants will be notified in early November, and be requested to submit a draft Full Proposal by mid-December. Final proposals will be submitted late January. The Utilities and representatives of the Lewis River Aquatic Coordination Committee will finalize the list of successful Resource Projects in mid-March 2018. Shortly thereafter the Utilities will submit the final list to the Federal Energy Regulatory Commission to meet the submittal deadline of April 15, 2018 (see **Attachment E** for Funding Process Timeline) and notify proponents.

Please give attention to this excellent opportunity. If you have any questions please contact Mr. Frank Shrier, PacifiCorp (503) 813-6622.

We look forward to your response in September.

Sincerely,



Todd Olson
Director, Compliance Hydro Resources

Encl:	Attachment A – Pre-proposal Form
	Attachment B – Lewis River Aquatic Fund Priority Reaches
	Attachment C – Landowner Acknowledgement Form
	Attachment D – Evaluation Criteria
	Attachment E – Funding Process Time Line

APPENDIX C
EMAIL DATED SEPTEMBER 28, 2017
EMAIL TO ACC FROM K. McCUNE – PACIFICORP
2017/2018 AQUATIC FUND PRE-PROPOSALS – UTILITIES
COMMENTS/RECOMMENDATIONS

McCune, Kimberly

From: McCune, Kimberly
Sent: Thursday, September 28, 2017 8:39 AM
To: Amanda Froberg; Amelia Johnson; Asher, Eli; Bob Rose; Bryce Glaser; Bryce Michaelis; Daniel Rawding; David Howe; Doyle, Jeremiah; Ed Meyer; Ferraiolo, Mark; Fish First; Hudson, Michael; James Byrne; James H Malinowski; 'Kale Bentley'; Karchesky, Chris; Kelley Jorgensen; Lesko, Erik; Mariah Stoll-Smith Reese; Mark Celedonia; 'Melody Tereski'; 'Michelle Day'; Morgan, David; Nathan Reynolds; Olson, Todd; 'Patrick Lee'; Peggy Miller; Pienovi, Levi; Rhidian Morgan; Roberts, Aaron; 'Ruth Tracy'; Samuel Kolb; Serdar Carol; Shrier, Frank; Steve Manlow; Taylor Aalvik; Tom Wadsworth; Weatherly, Briana; Whitesel, Timothy
Subject: RE: RESPONDE REQUESTED: 2017/2018 Aquatic Fund Preproposals Evaluation due October 11, 2017
Attachments: 09282017 - ACC Lewis River AQ Fund evaluation (2017-2018) Utilities.xls; Fisher PreProposal 092217.pdf
Importance: High
Follow Up Flag: Follow up
Flag Status: Flagged

Attn: ACC Participants

An oversight was discovered this morning that one more Pre-proposal was received by the due date of September 22, 2017. I have attached the document to this email as our website is currently undergoing maintenance. I have also attached a revised Excel spreadsheet.

My apologies for the inconvenience.

Kim

From: McCune, Kimberly
Sent: Monday, September 25, 2017 3:23 PM
To: Amanda Froberg <afroberg@cowlitzpud.org>; Amelia Johnson <ajohnson@lcfwb.gen.wa.us>; Asher, Eli <easher@cowlitz.org>; Bob Rose <rosb@yakamafish-nsn.gov>; Bryce Glaser <glasebgg@dfw.wa.gov>; Bryce Michaelis <bmichaelis@fs.fed.us>; Daniel Rawding <Daniel.Rawding@dfw.wa.gov>; David Howe <David.Howe@dfw.wa.gov>; Doyle, Jeremiah <Jeremiah.Doyle@pacificorp.com>; Ed Meyer <ed.meyer@noaa.gov>; Ferraiolo, Mark <Mark.Ferraiolo@pacificorp.com>; Fish First <j.malinowski@ieee.org>; Hudson, Michael <michael_hudson@fws.gov>; James Byrne <byrnejim7@gmail.com>; James H Malinowski <jim.malinowski@icloud.com>; 'Kale Bentley' <kale.bentley@dfw.wa.gov>; Karchesky, Chris <Chris.Karchesky@pacificorp.com>; Kelley Jorgensen <kjorgensen@pnfarm.com>; Lesko, Erik <Erik.Lesko@pacificorp.com>; Mariah Stoll-Smith Reese <mariah@lelooska.org>; Mark Celedonia <mark_celedonia@fws.gov>; 'Melody Tereski' <Melodyt@lcfwb.gen.wa.us>; 'Michelle Day' <michelle.day@noaa.gov>; Morgan, David <dmorgan@pnfarm.com>; Nathan Reynolds <nreynolds@cowlitz.org>; Olson, Todd <Todd.Olson@pacificorp.com>; 'Patrick Lee' <patrick.lee@clark.wa.gov>; Peggy Miller <peggy.miller@dfw.wa.gov>; Pienovi, Levi <Levi.Pienovi@pacificorp.com>; Rhidian Morgan <rmmorgan@pnfarm.com>; Roberts, Aaron <Aaron.roberts@dfw.wa.gov>; 'Ruth Tracy' <rtracy@fs.fed.us>; Samuel Kolb <samuel.kolb@dfw.wa.gov>; Serdar Carol <cser461@ECY.WA.GOV>; Shrier, Frank <Frank.Shrier@pacificorp.com>; Steve Manlow <smanlow@lcfwb.gen.wa.us>; Taylor Aalvik <taylor.a@cowlitz.org>; Tom Wadsworth <Thomas.Wadsworth@dfw.wa.gov>; Weatherly, Briana <Briana.Weatherly@pacificorp.com>; Whitesel, Timothy

<Timothy_Whitesel@fws.gov>

Subject: RESPONDE REQUESTED: 2017/2018 Aquatic Fund Preproposals Evaluation due October 11, 2017

Importance: High

Attn: ACC Participants

Please be advised that the Utilities received three (3) Pre-proposals by the due date of September 22, 2017. I have placed them on the Lewis River website for your convenience (see links below):

- Salmon Creek Flyfishers - East Fork of Lewis River Side Channel and Mason Creek Development and Maintenance
http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Hydro/Hydro_Licensing/Lewis_River/li/acc/09222017_EF_LR_Side_Channel.pdf
- USDA Forest Service – Lewis River 21 Phase II
http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Hydro/Hydro_Licensing/Lewis_River/li/acc/LR_21_Phase_II_PreProposal_FINAL.pdf
- Cowlitz Conservation District – Lewis River Reach 2 Side Channel
http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Hydro/Hydro_Licensing/Lewis_River/li/acc/09222017_LR_Reach_2_Side.pdf

In accordance with the attached Process Timeline, we request that Utility and ACC representatives each submit an Evaluation Criteria document for each project via email to my attention

no later than close of business Wednesday, October 11, 2017. We will discuss the evaluations and select pre-proposals for further consideration at the ACC Meeting Thursday, October 12, 2017.

Also attached is the Evaluation Matrix if you wish to request written clarification, suggestions, comments or questions for selected Projects to the Utilities for inclusion in the Request For Full Proposals.

Thank you.

Kimberly McCune

Sr. Business Administrator

PacifiCorp – Hydro Resources

825 NE Multnomah St., Suite 1500

Portland, OR 97232

Ph: (503) 813-6078

McCune, Kimberly

From: McCune, Kimberly
Sent: Monday, September 25, 2017 3:23 PM
To: Amanda Froberg; Amelia Johnson; Asher, Eli; Bob Rose; Bryce Glaser; Bryce Michaelis; Daniel Rawding; David Howe; Doyle, Jeremiah; Ed Meyer; Ferraiolo, Mark; Fish First; Hudson, Michael; James Byrne; James H Malinowski; 'Kale Bentley'; Karchesky, Chris; Kelley Jorgensen; Lesko, Erik; Mariah Stoll-Smith Reese; Mark Celedonia; 'Melody Tereski'; 'Michelle Day'; Morgan, David; Nathan Reynolds; Olson, Todd; 'Patrick Lee'; Peggy Miller; Pienovi, Levi; Rhidian Morgan; Roberts, Aaron; 'Ruth Tracy'; Samuel Kolb; Serdar Carol; Shrier, Frank; Steve Manlow; Taylor Aalvik; Tom Wadsworth; Weatherly, Briana; Whitesel, Timothy
Subject: RESPONDE REQUESTED: 2017/2018 Aquatic Fund Preproposals Evaluation due October 11, 2017
Attachments: 08112017 LR - D_Attachment D Eval Criteria.doc; 08112017 LR - E_Attachment E Aquatics Fund Process Timeline.docx; 09252017 - ACC Lewis River AQ Fund evaluation (2017-2018) Utilities.xls
Importance: High

Attn: ACC Participants

Please be advised that the Utilities received three (3) Pre-proposals by the due date of September 22, 2017. I have placed them on the Lewis River website for your convenience (see links below):

- Salmon Creek Flyfishers - East Fork of Lewis River Side Channel and Mason Creek Development and Maintenance
http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Hydro/Hydro_Licensing/Lewis_River/li/acc/09222017_EF_LR_Side_Channel.pdf
- USDA Forest Service – Lewis River 21 Phase II
http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Hydro/Hydro_Licensing/Lewis_River/li/acc/LR_21_Phase_II_PreProposal_FINAL.pdf
- Cowlitz Conservation District – Lewis River Reach 2 Side Channel
http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Hydro/Hydro_Licensing/Lewis_River/li/acc/09222017_LR_Reach_2_Side.pdf

In accordance with the attached Process Timeline, we request that Utility and ACC representatives each submit an Evaluation Criteria document for each project via email to my attention **no later than close of business Wednesday, October 11, 2017**. We will discuss the evaluations and select pre-proposals for further consideration at the ACC Meeting Thursday, October 12, 2017.

Also attached is the Evaluation Matrix if you wish to request written clarification, suggestions, comments or questions for selected Projects to the Utilities for inclusion in the Request For Full Proposals.

Thank you.

APPENDIX D

EMAIL DATED OCTOBER 25, 2017

EMAIL TO ACC FROM K. McCUNE – 2017/2018 AQUATIC FUND PRE-
PROPOSALS; 7-DAY REVIEW PERIOD

McCune, Kimberly

From: McCune, Kimberly
Sent: Wednesday, October 25, 2017 7:51 AM
To: Amanda Froberg; Amelia Johnson; Asher, Eli; Bob Rose; Bryce Glaser; Bryce Michaelis; Daniel Rawding; David Howe; Doyle, Jeremiah; Ed Meyer; Ferraiolo, Mark; Hudson, Michael; James Byrne; James H Malinowski; 'Kale Bentley'; Karchesky, Chris; Kelley Jorgensen; Lesko, Erik; Mariah Stoll-Smith Reese; Mark Celedonia; 'Melody Tereski'; 'Michelle Day'; Nathan Reynolds; Olson, Todd; 'Patrick Lee'; Peggy Miller; Pienovi, Levi; Roberts, Aaron; Shrier, Frank; Steve Manlow; Taylor Aalvik; Tom Wadsworth; Weatherly, Briana; Whitesel, Timothy
Subject: LR Aquatic Fund Eval/Comment Matrix; 7-day review period
Attachments: 10242017 - ACC Lewis River AQ Fund evaluation (2017-2018).xls

Attn: ACC Participants

Please be advised that the Utilities received additional comments from WDFW and LCFRB by the deadline of October 24th. I have incorporated all comments/concerns into the attached Evaluation Matrix, and will notify the applicants this week of the ACCs final decisions.

A full proposal for Lewis River 21 Phase II project will be due from the USFS by December 15, 2017.

Thank you.

Kimberly McCune
Sr. Business Administrator
PacifiCorp – Hydro Resources
825 NE Multnomah St., Suite 1500
Portland, OR 97232
Ph: (503) 813-6078

From: McCune, Kimberly
Sent: Monday, October 16, 2017 3:25 PM
To: Amanda Froberg <afroberg@cowlitzpud.org>; Amelia Johnson <ajohnson@lcfwb.gen.wa.us>; Asher, Eli <easher@cowlitz.org>; Bob Rose <rosb@yakamafish-nsn.gov>; Bryce Glaser <glasebgg@dfw.wa.gov>; Bryce Michaelis <bmichaelis@fs.fed.us>; Daniel Rawding <Daniel.Rawding@dfw.wa.gov>; David Howe <David.Howe@dfw.wa.gov>; Doyle, Jeremiah <Jeremiah.Doyle@pacificorp.com>; Ed Meyer <ed.meyer@noaa.gov>; Ferraiolo, Mark <Mark.Ferraiolo@pacificorp.com>; Hudson, Michael <michael_hudson@fws.gov>; James Byrne <byrnejim7@gmail.com>; James H Malinowski <jim.malinowski@icloud.com>; 'Kale Bentley' <kale.bentley@dfw.wa.gov>; Karchesky, Chris <Chris.Karchesky@pacificorp.com>; Kelley Jorgensen <kjorgensen@pnfarm.com>; Lesko, Erik <Erik.Lesko@pacificorp.com>; Mariah Stoll-Smith Reese <mariah@lelooska.org>; Mark Celedonia <mark_celedonia@fws.gov>; 'Melody Tereski' <Melodyt@lcfwb.gen.wa.us>; 'Michelle Day' <michelle.day@noaa.gov>; Morgan, David <dmorgan@pnfarm.com>; Nathan Reynolds <nreynolds@cowlitz.org>; Olson, Todd <Todd.Olson@pacificorp.com>; 'Patrick Lee' <patrick.lee@clark.wa.gov>; Peggy Miller <peggy.miller@dfw.wa.gov>; Pienovi, Levi <Levi.Pienovi@pacificorp.com>; Rhidian Morgan <rmmorgan@pnfarm.com>; Roberts, Aaron <Aaron.roberts@dfw.wa.gov>; Serdar Carol <cser461@ECY.WA.GOV>; Shrier, Frank <Frank.Shrier@pacificorp.com>; Steve Manlow <smanlow@lcfwb.gen.wa.us>; Taylor Aalvik

<taylor.a@cowlitz.org>; Tom Wadsworth <Thomas.Wadsworth@dfw.wa.gov>; Weatherly, Briana
<Briana.Weatherly@pacificorp.com>; Whitesel, Timothy <Timothy_Whitesel@fws.gov>

Subject: RE: RESPONSE REQUESTED: LR Aquatic Fund Eval/Comment Matrix; 7-day review period

Importance: High

Attn: ACC Participants

Attached for your review is the 2017/2018 Aquatic Fund Project Pre-proposals comment matrix based upon evaluation criteria received, comments expressed and decisions made at the ACC meeting last week. Please note that for those ACC representatives who were not present at the meeting the ACC decisions may not represent a consensus in all cases (see SA definition below).

“Consensus” means that all Parties participating in a committee or other decision-making group consent to a decision. Consent does not necessarily imply that a Party agrees completely with a particular decision, just that the Party is willing to go along with the decision rather than block the action.

The ACC agreed that an additional 7-day review period is appropriate. Please review each decision and comments and respond accordingly to my attention by close of business Tuesday, October 24, 2017.

Thank you.

Kimberly McCune

Sr. Business Administrator

PacifiCorp – Hydro Resources

825 NE Multnomah St., Suite 1500

Portland, OR 97232

Ph: (503) 813-6078

APPENDIX E

EMAIL DATED DECEMBER 15, 2017

MEMO TO ACC FROM K. McCUNE – PACIFICORP

REVIEW REQUESTED: LEWIS RIVER 21 PHASE II FULL PROPOSAL; LR
2017/2018 AQUATIC FUND

McCune, Kimberly

From: McCune, Kimberly
Sent: Friday, December 15, 2017 2:25 PM
To: Amanda Froberg; Amelia Johnson; Asher, Eli; Bob Rose; Brice Crayne; Bryce Glaser; Bryce Michaelis; Daniel Rawding; David Howe; Doyle, Jeremiah; Ed Meyer; Ferraiolo, Mark; Hudson, Michael; James Byrne (byrnejim7@gmail.com); James H Malinowski; 'Kale Bentley'; Karchesky, Chris; Kelley Jorgensen; Lesko, Erik; Mariah Stoll-Smith Reese; 'Melody Tereski'; 'Michelle Day'; Morgan, David; Nathan Reynolds; Olson, Todd; 'Patrick Lee'; Peggy Miller; Pienovi, Levi; Rhidian Morgan; Roberts, Aaron; 'Ruth Tracy'; Samuel Kolb; Serdar Carol; Shrier, Frank; Steve Manlow; Taylor Aalvik; Tim Romanski; Tom Wadsworth; Weatherly, Briana; Whitesel, Timothy
Subject: REVIEW REQUESTED: Lewis River 21 Phase II Full Proposal; LR 2017/2018 Aquatic Fund
Attachments: Table 4.1 AQ Funding Process Timeline.pdf; USFS_AQ_Fund_full_proposal_FINAL_DRAFT_121517.pdf; 10252017LR - Request USFS for AQ Fund full proposal.pdf
Importance: High

Attn: ACC Representatives

Please find attached a full proposal for the Lewis River 21 Phase II project. In accordance with the attached Funding Process Timeline please review the Proposal and begin internal staff discussions with your respective agencies. Block out time early and come prepared with questions/comments at the January 11, 2018 ACC Meeting. USFS will provide a 20-minute PowerPoint presentation.

I have also posted the proposal on the Lewis River website at the following link:

http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Hydro/Hydro_Licensing/Lewis_River/li/acc/USFS_AQ_Fund_full_proposal_FINAL_DRAFT_121517.pdf

Thank you.

Kimberly McCune

Sr. Business Administrator
PacifiCorp – Hydro Resources
825 NE Multnomah St., Suite 1500
Portland, OR 97232
Ph: (503) 813-6078

From: McCune, Kimberly
Sent: Wednesday, October 25, 2017 7:51 AM
To: Amanda Froberg <afroberg@cowlitzpud.org>; Amelia Johnson <ajohnson@lcfwb.gen.wa.us>; Asher, Eli <easher@cowlitz.org>; Bob Rose <rosb@yakamafish-nsn.gov>; Bryce Glaser <glasebgg@dfw.wa.gov>; Bryce Michaelis <bmichaelis@fs.fed.us>; Daniel Rawding <Daniel.Rawding@dfw.wa.gov>; David Howe <David.Howe@dfw.wa.gov>; Doyle, Jeremiah <Jeremiah.Doyle@pacificorp.com>; Ed Meyer <ed.meyer@noaa.gov>; Ferraiolo, Mark <Mark.Ferraiolo@pacificorp.com>; Hudson, Michael <michael_hudson@fws.gov>; James Byrne <byrnejim7@gmail.com>; James H Malinowski <jim.malinowski@icloud.com>; 'Kale Bentley' <kale.bentley@dfw.wa.gov>; Karchesky, Chris <Chris.Karchesky@pacificorp.com>; Kelley Jorgensen <kjorgensen@pnfarm.com>; Lesko, Erik <Erik.Lesko@pacificorp.com>; Mariah Stoll-Smith Reese <mariah@lelooska.org>; Mark Celedonia <mark_celedonia@fws.gov>; 'Melody Tereski' <Melodyt@lcfwb.gen.wa.us>;

'Michelle Day' <michelle.day@noaa.gov>; Nathan Reynolds <nreynolds@cowlitz.org>; Olson, Todd <Todd.Olson@pacificorp.com>; 'Patrick Lee' <patrick.lee@clark.wa.gov>; Peggy Miller <peggy.miller@dfw.wa.gov>; Pienovi, Levi <Levi.Pienovi@pacificorp.com>; Roberts, Aaron <Aaron.roberts@dfw.wa.gov>; Shrier, Frank <Frank.Shrier@pacificorp.com>; Steve Manlow <smanlow@lcfwb.gen.wa.us>; Taylor Aalvik <taylor.a@cowlitz.org>; Tom Wadsworth <Thomas.Wadsworth@dfw.wa.gov>; Weatherly, Briana <Briana.Weatherly@pacificorp.com>; Whitesel, Timothy <Timothy_Whitesel@fws.gov>

Subject: LR Aquatic Fund Eval/Comment Matrix; 7-day review period

Attn: ACC Participants

Please be advised that the Utilities received additional comments from WDFW and LCFRB by the deadline of October 24th. I have incorporated all comments/concerns into the attached Evaluation Matrix, and will notify the applicants this week of the ACCs final decisions.

A full proposal for Lewis River 21 Phase II project will be due from the USFS by December 15, 2017.

Thank you.

Kimberly McCune
Sr. Business Administrator
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From: McCune, Kimberly

Sent: Monday, October 16, 2017 3:25 PM

To: Amanda Froberg <afroberg@cowlitzpud.org>; Amelia Johnson <ajohnson@lcfwb.gen.wa.us>; Asher, Eli <easher@cowlitz.org>; Bob Rose <rosb@yakamafish-nsn.gov>; Bryce Glaser <glasebgg@dfw.wa.gov>; Bryce Michaelis <bmichaelis@fs.fed.us>; Daniel Rawding <Daniel.Rawding@dfw.wa.gov>; David Howe <David.Howe@dfw.wa.gov>; Doyle, Jeremiah <Jeremiah.Doyle@pacificorp.com>; Ed Meyer <ed.meyer@noaa.gov>; Ferraiolo, Mark <Mark.Ferraiolo@pacificorp.com>; Hudson, Michael <michael_hudson@fws.gov>; James Byrne <byrnejim7@gmail.com>; James H Malinowski <jim.malinowski@icloud.com>; 'Kale Bentley' <kale.bentley@dfw.wa.gov>; Karchesky, Chris <Chris.Karchesky@pacificorp.com>; Kelley Jorgensen <kjorgensen@pnfarm.com>; Lesko, Erik <Erik.Lesko@pacificorp.com>; Mariah Stoll-Smith Reese <mariah@lelooska.org>; Mark Celedonia <mark_celedonia@fws.gov>; 'Melody Tereski' <Melodyt@lcfwb.gen.wa.us>; 'Michelle Day' <michelle.day@noaa.gov>; Morgan, David <dmorgan@pnfarm.com>; Nathan Reynolds <nreynolds@cowlitz.org>; Olson, Todd <Todd.Olson@pacificorp.com>; 'Patrick Lee' <patrick.lee@clark.wa.gov>; Peggy Miller <peggy.miller@dfw.wa.gov>; Pienovi, Levi <Levi.Pienovi@pacificorp.com>; Rhidian Morgan <rmmorgan@pnfarm.com>; Roberts, Aaron <Aaron.roberts@dfw.wa.gov>; Serdar Carol <cser461@ECY.WA.GOV>; Shrier, Frank <Frank.Shrier@pacificorp.com>; Steve Manlow <smanlow@lcfwb.gen.wa.us>; Taylor Aalvik <taylor.a@cowlitz.org>; Tom Wadsworth <Thomas.Wadsworth@dfw.wa.gov>; Weatherly, Briana <Briana.Weatherly@pacificorp.com>; Whitesel, Timothy <Timothy_Whitesel@fws.gov>

Subject: RE: RESPONSE REQUESTED: LR Aquatic Fund Eval/Comment Matrix; 7-day review period

Importance: High

Attn: ACC Participants

Attached for your review is the 2017/2018 Aquatic Fund Project Pre-proposals comment matrix based upon evaluation criteria received, comments expressed and decisions made at the ACC meeting last week. Please note that for those ACC representatives who were not present at the meeting the ACC decisions may not represent a consensus in all cases (see SA definition below).

“Consensus” means that all Parties participating in a committee or other decision-making group consent to a decision. Consent does not necessarily imply that a Party agrees completely with a particular decision, just that the Party is willing to go along with the decision rather than block the action.

The ACC agreed that an additional 7-day review period is appropriate. Please review each decision and comments and respond accordingly to my attention by close of business Tuesday, October 24, 2017.

Thank you.

Kimberly McCune

Sr. Business Administrator

PacifiCorp – Hydro Resources

825 NE Multnomah St., Suite 1500

Portland, OR 97232

Ph: (503) 813-6078

Table 4.1. Funding Process Timeline

Activity	Target Milestone Date
Submit Request For Pre-Proposal Forms	Late August
Pre-Proposal Forms due	Late September
Pre-proposal forms distributed to ACC & Utilities	Late September
*ACC submits Pre-Proposal Listing and Evaluation Sheets (Attachment D). Discuss evaluation and select pre-proposals for further consideration	October ACC meeting
ACC members may provide written clarification, suggestions, comments or questions for Selected Projects to the Utilities for inclusion in the Request For Full Proposals.	Late October
Submit Request For Draft Full Proposals to Selected Applicants	Early November
Draft Full Proposals due (<i>Utilities will compile and email to ACC, this is when the ACC should be discussing internally with their respective agencies, block out time early</i>)	Mid-December
Conduct Proposed Project Information Meeting	January ACC meeting
ACC members provide written request for clarification of project information if questions not answered in previous meeting.	1 week after January ACC meeting (ACC agreed to COB 1/19/18)
Final Full Proposals due (ACC requests for clarification need to be included as an Appendix)	Late January (ACC agreed to COB 2/1/18)
Proposal Evaluation Sheet (Attachment D, Part B-E) Submitted to ACC for 30-day review	Early February (ACC agreed to COB 2/2/18)
ACC Proposal Evaluation Sheet (Attachment D, Part B-E) due to Utilities	March 2
*Conduct Project Selection Meeting	March ACC meeting
Provide add'l 7-day review period for absentee ACC participants, if needed	Third Thursday in March
Submit Project Selection Report to FERC	By April 15th

*Project proponents not allowed to attend this meeting.

APPENDIX F
EMAIL DATED FEBRUARY 2, 2018
TO THE ACC FROM K. MCCUNE – PACIFICORP
LEWIS RIVER 21 PHASE II FINAL FULL PROPOSAL; LR 2017/2018 AQUATIC
FUND; EVALUATION CRITERIA

McCune, Kimberly

From: McCune, Kimberly
Sent: Friday, February 02, 2018 8:41 AM
To: Amanda Froberg; Amelia Johnson; Asher, Eli; Bob Rose; Brice Crayne; Bryce Glaser; Bryce Michaelis; Daniel Rawding; David Howe; Doyle, Jeremiah; Ed Meyer; Ferraiolo, Mark; Hudson, Michael; James Byrne (byrnejim7@gmail.com); James H Malinowski; 'Kale Bentley'; Karchesky, Chris; Kelley Jorgensen; Lesko, Erik; Mariah Stoll-Smith Reese; 'Melody Tereski'; 'Michelle Day'; Morgan, David; Nathan Reynolds; Olson, Todd; 'Patrick Lee'; Peggy Miller; Pienovi, Levi; Rhidian Morgan; Roberts, Aaron; 'Ruth Tracy'; Samuel Kolb; Serdar Carol; Steve Manlow; Taylor Aalvik; Tim Romanski; Tom Wadsworth; Weatherly, Briana; Whitesel, Timothy
Subject: RESPONSE REQUESTED: Lewis River 21 Phase II FINAL Full Proposal; LR 2017/2018 Aquatic Fund; Evaluation Criteria
Attachments: 08112017 LR - D_Attachment D Eval Criteria.doc; 01192018 - ACC Lewis River AQ Fund evaluation (2017-2018).xls; USFS_AQ_Fund_full_proposal_FINAL-020118.pdf
Importance: High

Attn: ACC Representatives

Please find attached for your review the final Lewis River 21 Phase II Proposal for a 30-day review and comment period. The FS has incorporated its responses to questions in Appendix A & B.

Proposal Evaluation Sheet (Attachment D, Part B-E) Submitted to ACC for 30-day review	Early February (ACC agreed to COB 2/2/18)
--	--

Please submit a completed Evaluation Criteria document to my attention **no later than close of business, Monday, March 5, 2018.**

Thank you.

K

From: McCune, Kimberly
Sent: Monday, January 22, 2018 9:34 AM
To: Greg Robertson <gregrobertson@fs.fed.us>
Cc: Amanda Froberg <afroberg@cowlitzpud.org>; Lesko, Erik (Erik.Lesko@pacificorp.com) <Erik.Lesko@pacificorp.com>
Subject: RE: QUESTIONS/COMMENTS REQUESTED: Lewis River 21 Phase II Full Proposal; LR 2017/2018 Aquatic Fund

Good morning, Greg.

The Utilities received comments/questions from WDFW, LCFRB and Cowlitz Tribe by the January 19, 2018 deadline. Please see the first Tab labeled "ACC Full Prop Questions". The next step is indicated below:

Final Full Proposals due (ACC requests for clarification need to be included as an Appendix)	Late January (ACC agreed to COB 2/1/18)
--	--

In addition, I've included the ACC assignment request from the meeting January 11, 2018. I look forward to receiving the final full proposal by COB February 1, 2018.

Assignments from January 11, 2018	Status
Robertson: Combine all aspects of the aquatic fund pre-proposal and full proposal into one final document.	

Thank you.

Kim

From: McCune, Kimberly

Sent: Friday, January 19, 2018 8:10 AM

To: Amanda Froberg <afroberg@cowlitzpud.org>; Amelia Johnson <ajohnson@lcfrb.gen.wa.us>; Asher, Eli <easher@cowlitz.org>; Bob Rose <rosb@yakamafish-nsn.gov>; Brice Crayne <bricecrayne@outlook.com>; Bryce Glaser <glasebgg@dfw.wa.gov>; Bryce Michaelis <bmichaelis@fs.fed.us>; Daniel Rawding <Daniel.Rawding@dfw.wa.gov>; David Howe <David.Howe@dfw.wa.gov>; Doyle, Jeremiah <Jeremiah.Doyle@pacificorp.com>; Ed Meyer <ed.meyer@noaa.gov>; Ferraiolo, Mark <Mark.Ferraiolo@pacificorp.com>; Hudson, Michael <michael_hudson@fws.gov>; James Byrne (byrnejim7@gmail.com) <byrnejim7@gmail.com>; James H Malinowski <jim.malinowski@icloud.com>; 'Kale Bentley' <kale.bentley@dfw.wa.gov>; Karchesky, Chris <Chris.Karchesky@pacificorp.com>; Kelley Jorgensen <kjorgensen@pnfarm.com>; Lesko, Erik <Erik.Lesko@pacificorp.com>; Mariah Stoll-Smith Reese <mariah@lelooska.org>; 'Melody Tereski' <Melodyt@lcfrb.gen.wa.us>; 'Michelle Day' <michelle.day@noaa.gov>; Morgan, David <dmorgan@pnfarm.com>; Nathan Reynolds <nreynolds@cowlitz.org>; Olson, Todd <Todd.Olson@pacificorp.com>; 'Patrick Lee' <patrick.lee@clark.wa.gov>; Peggy Miller <peggy.miller@dfw.wa.gov>; Pienovi, Levi <Levi.Pienovi@pacificorp.com>; Rhidian Morgan <rmmorgan@pnfarm.com>; Roberts, Aaron <Aaron.roberts@dfw.wa.gov>; 'Ruth Tracy' <rtracy@fs.fed.us>; Samuel Kolb <samuel.kolb@dfw.wa.gov>; Serdar Carol <cser461@ECY.WA.GOV>; Steve Manlow <smanlow@lcfrb.gen.wa.us>; Taylor Aalvik <taylor.a@cowlitz.org>; Tim Romanski <tim_romanski@fws.gov>; Tom Wadsworth <Thomas.Wadsworth@dfw.wa.gov>; Weatherly, Briana <Briana.Weatherly@pacificorp.com>; Whitesel, Timothy <Timothy_Whitesel@fws.gov>

Subject: RE: QUESTIONS/COMMENTS REQUESTED: Lewis River 21 Phase II Full Proposal; LR 2017/2018 Aquatic Fund
Importance: High

Just a friendly reminder that Lewis River 21 Phase II Proposal written questions/comments are due to my attention by close of business today.

Thank you.

Kim

From: McCune, Kimberly

Sent: Thursday, January 11, 2018 2:10 PM

To: Amanda Froberg <afroberg@cowlitzpud.org>; Amelia Johnson <ajohnson@lcfrb.gen.wa.us>; Asher, Eli <easher@cowlitz.org>; Bob Rose <rosb@yakamafish-nsn.gov>; Brice Crayne <bricecrayne@outlook.com>; Bryce Glaser <glasebgg@dfw.wa.gov>; Bryce Michaelis <bmichaelis@fs.fed.us>; Daniel Rawding <Daniel.Rawding@dfw.wa.gov>; David Howe <David.Howe@dfw.wa.gov>; Doyle, Jeremiah <Jeremiah.Doyle@pacificorp.com>; Ed Meyer <ed.meyer@noaa.gov>; Ferraiolo, Mark <Mark.Ferraiolo@pacificorp.com>; Hudson, Michael

<michael_hudson@fws.gov>; James Byrne (byrnejim7@gmail.com) <byrnejim7@gmail.com>; James H Malinowski <jim.malinowski@icloud.com>; 'Kale Bentley' <kale.bentley@dfw.wa.gov>; Karchesky, Chris <Chris.Karchesky@pacificorp.com>; Kelley Jorgensen <kjorgensen@pnfarm.com>; Lesko, Erik <Erik.Lesko@pacificorp.com>; Mariah Stoll-Smith Reese <mariah@lelooska.org>; 'Melody Tereski' <Melodyt@lcfwb.gen.wa.us>; 'Michelle Day' <michelle.day@noaa.gov>; Morgan, David <dmorgan@pnfarm.com>; Nathan Reynolds <nreynolds@cowlitz.org>; Olson, Todd <Todd.Olson@pacificorp.com>; 'Patrick Lee' <patrick.lee@clark.wa.gov>; Peggy Miller <peggy.miller@dfw.wa.gov>; Pienovi, Levi <Levi.Pienovi@pacificorp.com>; Rhidian Morgan <mmmorgan@pnfarm.com>; Roberts, Aaron <Aaron.roberts@dfw.wa.gov>; 'Ruth Tracy' <rtracy@fs.fed.us>; Samuel Kolb <samuel.kolb@dfw.wa.gov>; Serdar Carol <cser461@ECY.WA.GOV>; Steve Manlow <smanlow@lcfwb.gen.wa.us>; Taylor Aalvik <taylor.a@cowlitz.org>; Tim Romanski <tim_romanski@fws.gov>; Tom Wadsworth <Thomas.Wadsworth@dfw.wa.gov>; Weatherly, Briana <Briana.Weatherly@pacificorp.com>; Whitesel, Timothy <Timothy_Whitesel@fws.gov>

Subject: QUESTIONS/COMMENTS REQUESTED: Lewis River 21 Phase II Full Proposal; LR 2017/2018 Aquatic Fund

Attn: ACC Representatives

In accordance with the ACC meeting today I've attached the Aquatic Fund timeline for your review. Please provide written request of any remaining questions of clarification or additional project information needed specific to the Lewis River 21 Phase II project if questions were not answered in today's meeting.

Written requests are due to my attention by close of business Friday, January 19, 2018.

Also, in response to today's discussion around project administrative costs, etc. please see Attachment D, Section E. Cost Effectiveness and Timeliness. This topic is included as part of the evaluation criteria each of you will take into consideration as you assign a score to each section.

ACC members provide written request for clarification of project information if questions not answered in previous meeting.	1 week after January ACC meeting (ACC agreed to COB 1/19/18)
Final Full Proposals due (ACC requests for clarification need to be included as an Appendix)	Late January (ACC agreed to COB 2/1/18)
Proposal Evaluation Sheet (Attachment D, Part B-E) Submitted to ACC for 30-day review	Early February (ACC agreed to COB 2/2/18)

Thank you.

Kimberly McCune

Sr. Business Administrator
PacifiCorp – Hydro Resources
825 NE Multnomah St., Suite 1500
Portland, OR 97232
Ph: (503) 813-6078

From: McCune, Kimberly

Sent: Friday, December 15, 2017 2:25 PM

To: Amanda Froberg <afroberg@cowlitzpud.org>; Amelia Johnson <ajohnson@lcfwb.gen.wa.us>; Asher, Eli

<easher@cowlitz.org>; Bob Rose <rosb@yakamafish-nsn.gov>; Brice Crayne <bricecrayne@outlook.com>; Bryce Glaser <glasebgg@dfw.wa.gov>; Bryce Michaelis <bmichaelis@fs.fed.us>; Daniel Rawding <Daniel.Rawding@dfw.wa.gov>; David Howe <David.Howe@dfw.wa.gov>; Doyle, Jeremiah <Jeremiah.Doyle@pacificorp.com>; Ed Meyer <ed.meyer@noaa.gov>; Ferraiolo, Mark <Mark.Ferraiolo@pacificorp.com>; Hudson, Michael <michael_hudson@fws.gov>; James Byrne (byrnejim7@gmail.com) <byrnejim7@gmail.com>; James H Malinowski <jim.malinowski@icloud.com>; 'Kale Bentley' <kale.bentley@dfw.wa.gov>; Karchesky, Chris <Chris.Karchesky@pacificorp.com>; Kelley Jorgensen <kjorgensen@pnfarm.com>; Lesko, Erik <Erik.Lesko@pacificorp.com>; Mariah Stoll-Smith Reese <mariah@lelooska.org>; 'Melody Tereski' <Melodyt@lcfrb.gen.wa.us>; 'Michelle Day' <michelle.day@noaa.gov>; Morgan, David <dmorgan@pnfarm.com>; Nathan Reynolds <nreynolds@cowlitz.org>; Olson, Todd <Todd.Olson@pacificorp.com>; 'Patrick Lee' <patrick.lee@clark.wa.gov>; Peggy Miller <peggy.miller@dfw.wa.gov>; Pienovi, Levi <Levi.Pienovi@pacificorp.com>; Rhidian Morgan <rmmorgan@pnfarm.com>; Roberts, Aaron <Aaron.roberts@dfw.wa.gov>; 'Ruth Tracy' <rtracy@fs.fed.us>; Samuel Kolb <samuel.kolb@dfw.wa.gov>; Serdar Carol <cser461@ECY.WA.GOV>; Shrier, Frank <Frank.Shrier@pacificorp.com>; Steve Manlow <smanlow@lcfrb.gen.wa.us>; Taylor Aalvik <taylor.a@cowlitz.org>; Tim Romanski <tim_romanski@fws.gov>; Tom Wadsworth <Thomas.Wadsworth@dfw.wa.gov>; Weatherly, Briana <Briana.Weatherly@pacificorp.com>; Whitesel, Timothy <Timothy_Whitesel@fws.gov>

Subject: REVIEW REQUESTED: Lewis River 21 Phase II Full Proposal; LR 2017/2018 Aquatic Fund

Importance: High

Attn: ACC Representatives

Please find attached a full proposal for the Lewis River 21 Phase II project. In accordance with the attached Funding Process Timeline please review the Proposal and begin internal staff discussions with your respective agencies. Block out time early and come prepared with questions/comments at the January 11, 2018 ACC Meeting. USFS will provide a 20-minute PowerPoint presentation.

I have also posted the proposal on the Lewis River website at the following link:

http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Hydro/Hydro_Licensing/Lewis_River/li/acc/USFS_AQ_Fund_full_proposal_FINAL_DRAFT_121517.pdf

Thank you.

Kimberly McCune

Sr. Business Administrator

PacifiCorp – Hydro Resources

825 NE Multnomah St., Suite 1500

Portland, OR 97232

Ph: (503) 813-6078

APPENDIX G
EMAIL DATED MARCH 8, 2018
TO THE ACC FROM K. MCCUNE – PACIFICORP
RESPONSE REQUESTED: LEWIS RIVER 21 PHASE II; 2017/2018 AQUATIC
FUND; EVALUATION CRITERIA & RESPONSE MATRIX

McCune, Kimberly

From: McCune, Kimberly
Sent: Thursday, March 08, 2018 3:25 PM
To: Amanda Froberg; Amelia Johnson; Asher, Eli; Bob Rose; Brice Crayne; Bryce Glaser; Bryce Michaelis; Daniel Rawding; David Howe; Doyle, Jeremiah; Ed Meyer; Ferraiolo, Mark; Hudson, Michael; James Byrne; James H Malinowski; 'Kale Bentley'; Karchesky, Chris; Kelley Jorgensen; Lesko, Erik; Mariah Stoll-Smith Reese; 'Melody Tereski'; 'Michelle Day'; Morgan, David; Nathan Reynolds; Olson, Todd; 'Patrick Lee'; Peggy Miller; Pienovi, Levi; Rhidian Morgan; Roberts, Aaron; 'Ruth Tracy'; Samuel Kolb; Serdar Carol; Steve Manlow; Taylor Aalvik; Tim Romanski; Tom Wadsworth; Weatherly, Briana; Whitesel, Timothy
Subject: RESPONSE REQUESTED: Lewis River 21 Phase II; 2017/2018 Aquatic Fund; Evaluation Criteria & Response Matrix
Attachments: 03082018 ACC Evaluation Criteria.pdf; 03082018 - ACC Lewis River AQ Fund evaluation (2017-2018).xls
Follow Up Flag: Follow up
Flag Status: Flagged

Attn: ACC Representatives

Please be advised that consensus was reached at the March 8, 2018 ACC meeting to fund the USFS project identified on the attached Excel spreadsheet. To accommodate those ACC participants not in attendance today, the Utilities are providing an additional 7-day comment period. Please see the Tab labeled *ACC & Utilities Fund Decisions* and the attached ACC Evaluation Criteria documents.

Please provide your comments and decisions to my attention **on or before close of business Friday, March 16, 2018.**

In addition, you may view the Full Proposal on the Lewis River website at the link:

http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Hydro/Hydro_Licensing/Lewis_River/li/acc/USFS_AQ_Fund_full_proposal_FINAL-020118REV.pdf

Thank you.

Kim

From: McCune, Kimberly
Sent: Tuesday, March 06, 2018 2:48 PM
To: Amanda Froberg <afroberg@cowlitzpud.org>; Amelia Johnson <ajohnson@lcfrb.gen.wa.us>; Asher, Eli <easher@cowlitz.org>; Bob Rose <rosb@yakamafish-nsn.gov>; Brice Crayne <bricecrayne@outlook.com>; Bryce Glaser <glasebgg@dfw.wa.gov>; Bryce Michaelis <bmichaelis@fs.fed.us>; Daniel Rawding <Daniel.Rawding@dfw.wa.gov>; David Howe <David.Howe@dfw.wa.gov>; Doyle, Jeremiah <Jeremiah.Doyle@pacificorp.com>; Ed Meyer <ed.meyer@noaa.gov>; Ferraiolo, Mark <Mark.Ferraiolo@pacificorp.com>; Hudson, Michael <michael_hudson@fws.gov>; James Byrne <byrnejim7@gmail.com>; James H Malinowski <jim.malinowski@icloud.com>; 'Kale Bentley' <kale.bentley@dfw.wa.gov>; Karchesky, Chris <Chris.Karchesky@pacificorp.com>; Kelley Jorgensen <kjorgensen@pnfarm.com>; Lesko, Erik <Erik.Lesko@pacificorp.com>; Mariah Stoll-Smith Reese <mariah@lelooska.org>; 'Melody Tereski' <Melodyt@lcfrb.gen.wa.us>; 'Michelle Day' <michelle.day@noaa.gov>; Morgan, David <dmorgan@pnfarm.com>;

	A	B	C	D	E	F	G	H	I	J	K
1						03/2018 - AGC Lewis River AG Fund evaluation (2017-2018) v1					
2		Applicant	Project Title	WDFW	LCFRB	Cowlitz Tribe	Trout Unlimited	Utilities	Fish First	USFWS	Yakama Nation
3			Yes - recommend to fund this project.	Yes - On the technical front LCFRB still has some lingering questions (no technical robustness) but approve going forward with a robust habitat approach.	No - Not satisfied with the Forest Service response to Cowlitz Tribe questions; minimal faith in designs. Not a well groomed phased approach but will not stand in the way of funding.	No - Not appropriate at this time; consider adaptive management and reconsider project once the Swift Collector is operating efficiently for full success. Trout Unlimited will not stand in the way of funding this project.	Yes - recommend to fund this project.	No - Wants better success rates with reintroduction efforts but will not stand in the way of funding.	Abstain	Abstain	
4		USDA Forest Service	Lewis River 21 Phase II	<p>Comment 1. Final proposal should be standalone proposal. It needs to include all information from pre-proposal that should be considered in the evaluation.</p> <p>Comment 2. Aerial photos with the location of the proposed structures along with existing jams should be included in the final proposal.</p> <p>Comment 3. Background section: should include info about Lewis River Phase I and any common objectives relationship to proposed Phase II project</p> <p>Comment 4. Where are the existing wood complexes in relation to the four new structures being constructed? What will happen to the existing structures (i.e. will they be dismantled then rebuilt)?</p>	<p>1) Both figures 1 and 2 in the full proposal document show the right bank side channel bed elevation is higher than the current main channel bed elevation. The proposed apex and bank structures would engage with flows in the main channel at elevations much lower than the side channel. Disruption of flow into the side channel would only occur at approximately bankfull (Q1.2) or higher flows. By constraining channel forming flows in the main channel up to bankfull elevation, what is the risk of causing isolated channel incision that could further disconnect side channel habitat? Is erosion expected to ensure side channels will be acquired at less than bankfull flow? If yes, this should be shown in the project drawings. It is important to engage side channels at flows both above and below bankfull elevations because of the potential needs of increased space for complex, off-channel rearing and spawning habitat.</p>	<p>The full proposal should encompass all proposed actions, design details, processes, etc. For example, the proponent described proposed actions (e.g., side channel excavation) during the January meeting that were not included in the proposal. It was not clear whether this was an omission or an evolution in the approach. Along the same lines, answers provided to individual questions should be incorporated into the full proposal (as well as noted in an attachment). While responses to the pre-proposal questions were provided, they did not appear to have been fully integrated into the proposal. For instance, pier scour calculations were provided that indicated maximum probable scour would be approximately 16'. While the conceptual drawings appear to have been updated by changing scour depths, the construction details do not appear to have changed (e.g., individual logs now appear to be approximately 3-7' diameter, and the 13' structure height appears nearly 50% greater than the 16' embankment depth). These would not ordinarily qualify as preliminary design as described in the narrative. Will the greater scour depths change construction techniques? Materials quantities? Likely outcomes?</p>	<p>Trout Unlimited (TU) appreciates the opportunity to comment on the U.S. Forest Service's Lewis River 21, Phase II Project. Section 7.5 of the Settlement Agreement discusses the Aquatics Fund. It states, "PacificCorp and Cowlitz PUD shall establish the Lewis River Aquatics Fund ("Aquatics Fund") to support resource protection measures ("Resource Projects"). Resource Projects may include, without limitation, projects that enhance and improve wetlands, riparian, and aquatic habitats; projects that enhance and improve riparian and aquatic species connectivity that may be affected by the continued operation of the Project; and projects that increase the probability for a successful reintroduction program of bull trout." In this case, and at this particular time, TU does not believe that this project increases the probability for successful reintroduction.</p> <p>The applicant has done an excellent job meeting the criteria required for a successful application. Their one omission appears to be the provision for assurance as detailed in Appendix 4, Insurance Requirements, of the full proposal form.</p> <p>Although Section 7.5 does not address a holistic or ecosystem approach to habitat projects, Trout Unlimited believes such project should be considered in light of the total riparian process. When the Aquatics Fund was developed, it was not anticipated that disturbance to remaining anadromous fish from the reservoir would occur. We believe this is a good project, but as long as the Swift Collector is unable to meet its efficiency goals, this project is an investment at best. Section 7.5 does not require that funds must be spent annually. TU believes conducting this project at a time when the collector is operating efficiently will be a much better use of the funds.</p>	<p>Habitat upstream is needed as upstream is tracking fish into the upper reservoirs. Collection efficiency is steadily improving.</p>			
5		USDA Forest Service	Lewis River 21 Phase II	<p>Comment 5. Keep tables and text numbers consistent throughout the proposal (page 4 and page 10, etc.). Task 1: NEPA and request for info. Please clarify under Task 4 if in the NEPA complete or still in progress? Is the field work for NEPA document or the field work for the project that is covered in the NEPA? If it's the NEPA document, what type of information needs to be collected? Also, how does Lewis River Phase I decision memo relate to Phase 2?</p> <p>Comment 6. Task 3: Project Implementation (Page 5) For Task 17, it appears the Scope of Work for equipment and labor bid will be written (Is also Project Mgmt in budget?), then the contract administrator will monitor execution, etc. for the contract (page 6-4). \$20,000 (\$10,000 AGC) has been budgeted for Contract Administration. This seems like a large amount of funding for contract administrator responsibilities. Please clarify the job responsibilities for the contract administrator in the final proposal.</p>	<p>2) The full proposal form should be a stand-alone document that includes all project information from the proposal as well.</p> <p>3) The functional relationship between the project and the completed project downstream is unclear. Are there specific energy elements of this project intended to maintain or improve functions of the downstream project? Is additional work needed to maintain target flow paths between the two projects? Are additional phases planned for this project area? If yes, please describe how the proposed work relates to small riparian habitat restoration.</p>	<p>Bank stabilization may not be the most appropriate approach at this location, and the proposal does not adequately describe the rationale for stabilizing the bank. Erosion banks are not necessarily detrimental, especially in uncolonized locations. Additionally, even if stabilization is desirable, the proposed bank stabilization structure may eventually exacerbate erosion without enough members for stability, and more detailed analysis to determine causal factors in the riparian channel erosion.</p> <p>As discussed in the January AGC meeting, the cross sections provided in the full proposal suggest that structure placement may encourage greater scour, rather than floodplain interaction, depending on several factors, one of which is whether preservation occurs in side channel areas. The proponent stated that recreational resources may be impacted by excavation, which suggests that if the project functions as designed (regardless of excavation), recreation resources may be constraining. This should be fully explained.</p> <p>Cuts in the budget should be tracked, per conversations at the January meeting.</p>	<p>Currently, large numbers of coho, spring Chinook, and steelhead smolts enter the reservoir, and have difficulty finding and entering the downstream smolt collector. The vast majority of smolts remain in the reservoir. A large percentage of smolts appear in the angler creel. Gravid landlocked coho and spring Chinook have been observed spawning in reservoir and river tributaries.</p> <p>Two separate runs of successfully reproducing landlocked coho and spring Chinook have developed on their own in the upper basin. With large numbers of introduced smolts in the reservoir, and no credible knowledge of their foraging impact on native reservoir species, TU believes it is not prudent to continue habitat projects to further increase smolt numbers. Landlocked smolt foraging impacts on native reservoir species. These species are not routinely monitored, so we have no idea of the impact of these foraging smolts. This information is critical to determine competition and carrying capacity within the reservoir.</p> <p>However, ESA listed bull trout are monitored, and data indicate they are declining in both size and numbers, since reintroduction. Additionally, bull trout populations must now contend with triple the numbers of coho in their natal streams. This particular project occurs upstream of Rush Creek, one of the only two documented bull trout spawning streams within the basin. This places foraging salmon in close proximity to YOY and yearling bull trout.</p> <p>We believe that the poor collection ability of the downstream collector is the most bottleneck for successful anadromous reintroduction. Our first priority should be fixing the collection problem. Additional habitat improvement efforts are moot, until smolts can successfully be transported from Smith to their way to the ocean. We anticipate that collection efficiency will be improved over time. TU would prefer that this project be deferred, until funds saved, until passage efficiency is improved. Once the collector is operating efficiently, TU would be pleased to support this project.</p>				
6		USDA Forest Service	Lewis River 21 Phase II	<p>Comment 7. (Page 5 and 6) Methods - If NEPA is not relevant for logging trees, modify the first paragraph in Methods.</p> <p>Cedar or Douglas fir (less than or equal to 36" DBH) from the immediate riparian area - What is the minimum dbh? Also what would be the impact from removing 10 - 12 trees with up to 36" dbh from the riparian area? Will there be impacts to shade, temperature or canopy cover over the river? I'm assuming this is the riparian area of Reach 21. If not identify the location of the "immediate riparian area" and any impacts. I'd like to understand the tradeoff between removing trees and improving LWD in Reach 21.</p> <p>R-1 report (Page 2) states wood from the adjacent riparian stands would be greater than 36" dbh and later on page 11 up to 36" dbh. The proposal is less than or equal to 36" dbh. Is it greater than or less than? Provide a note in the proposal identifying the discrepancy in the R-1 report and confirming the intended size range.</p> <p>Comment 8. Figure 1 (Page 6) - What is the ch for 2017 base flow?</p>			<p>We believe that the poor collection ability of the downstream collector is the main bottleneck for successful anadromous reintroduction. Our first priority should be fixing the collection problem. Additional habitat improvement efforts are moot, until smolts can successfully be transported from Smith to their way to the ocean. We anticipate that collection efficiency will be improved over time. TU would prefer that this project be deferred, until funds saved, until passage efficiency is improved. Once the collector is operating efficiently, TU would be pleased to support this project.</p> <p>Currently, large numbers of coho, spring Chinook, and steelhead smolts enter the reservoir, and have difficulty finding and entering the downstream smolt collector. The vast majority of smolts remain in the reservoir. A large percentage of smolts appear in the angler creel. Gravid landlocked coho and spring Chinook have been observed spawning in reservoir and river tributaries.</p> <p>Two separate runs of successfully reproducing landlocked coho and spring Chinook have developed on their own in the upper basin. With large numbers of introduced smolts in the reservoir, and no credible knowledge of their foraging impact on native reservoir species, TU believes it is not prudent to continue habitat projects to further increase smolt numbers. Landlocked smolt foraging impacts on native reservoir species. These species are not routinely monitored, so we have no idea of the impact of these foraging smolts. This information is critical to determine competition and carrying capacity within the reservoir.</p> <p>However, ESA listed bull trout are monitored, and data indicate they are declining in both size and numbers, since reintroduction. Additionally, bull trout populations must now contend with triple the numbers of coho in their natal streams. This particular project occurs upstream of Rush Creek, one of the only two documented bull trout spawning streams within the basin. This places foraging salmon in close proximity to YOY and yearling bull trout.</p>				
7		USDA Forest Service	Lewis River 21 Phase II	<p>Comment 9. Specific Work Products (Page 10) - A deliverable is usually a product that would be submitted to the AGC. Using that definition, a contract submission or a tree harvest are not likely deliverables. Clarify if Task 1 describes the first time the contract can be submitted to the USFS contracting department in order to maintain the proposed timeline.</p> <p>Comment 10. 3. Project Duration (Page 10) - Project duration is identified as September 2018 through December 2021 yet NEPA will be complete by March 2018. NEPA is listed as a project cost and \$5,000 budgeted from AGC funds so it should also be included in the project duration.</p>							
8		USDA Forest Service	Lewis River 21 Phase II	<p>Comment 11. Bridge (Page 12) - What is the difference between Mt. St. Helens Institute and Mt. St. Helens Institute Community Education? What and element is considered Project Mgmt in bridge?</p> <p>Comment 12. Budget (Page 12) - The intent of the Aquatic Fund is to pay for on the ground work. As such, community education and similar activities may not be appropriate activities for the Aquatic fund.</p> <p>Comment 13. Budget (Page 12-13) - add explanation either in table captions or in the body of the document to describe the difference between Tables 2 and 3. If possible combine the two tables into one - may be able to eliminate most of Table 3.</p>							
9		USDA Forest Service	Lewis River 21 Phase II	<p>Comment 14. Appendix B (Page 17) - Please address pre-proposal presentation and written final questions in the final full proposal text not just in an Appendix. Some questions are repeated because some of the information is only in Appendix B.</p> <p>Comment 15. Appendix B (Page 17) - The answer to WDFW question #1 did not address the intent of the question and did not address reach potential. Please address within the proposal why we should fund a reach designated as having low potential for increasing spring Chinook productivity when there are restoration reaches in either reaches that are listed as having high potential for spring Chinook productivity. The following excerpt from the 2014 Lower Columbia Fish Recovery Basin Reach Tier Designations defines reach potential:</p> <p>Species Reach Potential (SRP) is the "... contribution of a reach to the current and potential population performance. " It identifies "... reaches where recovery actions, "... such as habitat restoration to address limiting factors "... would have the greatest benefit for a particular population."</p> <p>Give justification for restoration in Reach 21 based on reach and reservoir potential productivity, not just reaching the river. Each reach has limiting factors that affect life history stages. The difference in the overall benefit to population productivity from restoration within a reach. Restoration within a reach that has low reach potential will have less benefit to the population productivity than restoration in a reach with high reach potential.</p>							
10		USDA Forest Service	Lewis River 21 Phase II	<p>3.6.18-1 attached WDFW's eval criteria score sheet. I was not sure how to incorporate additional comments from WDFW so I included these in this email.</p> <p>- Applicants did not respond to all WDFW comments in the proposal but appears only half of the comments were sent to USFS</p> <p>- Proposal appears to be missing Appendix C</p> <p>- Project manager should consider escape routes in excavated areas in the final design to ensure fish are not trapped</p> <p>- We would request that the project manager provide the AGC the 30-day post construction monitoring reports</p> <p>- Consider a plan for monitoring fish passage and identify abundance in and around the restoration site before and after project completion. Could work with the RATS team or with PacificCorp's existing methodologies for assessing improvements in rearing spring (Swift Collector, smolt traps, etc.)</p> <p>- AGC may want to see the final design before implementation since final design is a 4.4.10.10.1.</p>							
11		USDA Forest Service	Lewis River 21 Phase II								

ACC/Utilities									
Decision for Funding		Applicant	Project Title	Funding	WDFW	Fish First	LCFRB	Yakama Nation	USFS
	No.	Applicant	Project Title		Comments	Comments	Comments	Comments	Comments
No	1	Salmon Creek Flyfishers	East Fork of LR Side Channel & Mason Creek Development & Maintenance	\$ 29,400.00	Total weighted score - 17: There are still projects in the North Fork that would benefit recovery and those should be address before the ACC funds projects in the East Fork. It would be a stretch to say the project would benefit fish recovery throughout the North Fork Lewis River. The project received a “does not meet” response in Section A “Consistency with Fund Objectives and Priorities” for 1. Benefit fish recovery throughout the North Fork Lewis River, priority to federal ESA-listed species (Bull Trout, Chinook, Steelhead, and Chum). Do not proceed to full proposal.	Representative not present, eval criteria not received as of 10/12/17	Total weighted score - 0: The Aquatic Fund objectives and priorities are to benefit NF Lewis River fish recovery and to support reintroduction efforts (Evaluation Criteria, Section A). This project targets habitat in the EF Lewis River subbasin and is not likely to benefit NF Lewis River fish, including reintroduction efforts in upper basin, which is the focus of this grant round. The LCFRB does not recommend that this pre-proposal move forward for further evaluation or funding.	Bob Rose informed the Utilities that Yakama Nation will not be submitting responses for criteria. He is confident ACC is doing a great job.	The Forest Service has reviewed the Pre-Proposal and has determined that it "meets" the aquatic fund objectives and priorities. Project needs to be better defined. However, the Forest Service will not stand in the way of going forward or not to full proposal.
Yes	2	USDA Forest Service	Lewis River 21 Phase II	\$ 185,000.00	Total weighted score - 41: The project “meets” all three components in Section A “Consistency with Fund Objectives and Priorities” and should be moved forward to full proposal. The project addresses the priority life stages and limiting factors listed in SalmonPort Reach 21 for spring Chinook and the Multispecies Restoration Needs. The reach is listed as low for spring Chinook for Reach Potential. Proceed to full proposal.	Representative not present, eval criteria not received as of 10/12/17	Total weighted score - 37: This project meets funding objectives and priorities because it focuses on improving habitat for upper basin populations in the NF Lewis River. This project targets a medium priority reach for regional recovery (EDT Tier 2, NF Lewis 21), with high potential for winter steelhead, medium potential for coho, and low potential for spring Chinook population performance improvements (LCFRB 2010). This project aims to improve channel stability and off-channel/side-channel habitat, which are identified as high priority restoration needs for fish in this reach (LCFRB 2010). NF Lewis 21 is also identified as a priority for spring Chinook in the Lewis River Aquatic Fund Priority Reaches (Attachment B in application materials). This project would address both spawning and rearing needs for ESA-listed salmonids. Please answer the following questions in a full proposal: 1) How does this project site relate functionally to the 2016-funded Phase I site? 2) Please elaborate on stabilizing the December 2015 large wood depositional area - is it a project goal to provide habitat complexity to capture this wood as it shifts downstream or laterally, or to relocate this deposited large wood? The LCFRB recommends that this pre-proposal move forward to the full proposal stage.	Bob Rose informed the Utilities that Yakama Nation will not be submitting responses for criteria. He is confident ACC is doing a great job.	The Forest Service has reviewed the Pre-Proposal and has determined that it "meets" the aquatic fund objectives and priorities. Yes, proceed to full proposal.
No	3	Cowlitz Conservation District	Lewis River Reach 2 Side Channel	\$ 155,500.00	Total weighted score - 28: Although this is a good project and funding preliminary design would provide additional security that the project would meet the listed goals and objectives, the ACC does not fund preliminary design work. The pre-proposal does not include a preliminary design as request in the application instructions. Without the preliminary design it is hard for our engineers to evaluate the likelihood of project success. Also it’s not clear if the aggradation in the side channel is caused by anthropomorphic conditions or is a natural geomorphic process. Maintenance may be necessary to maintain the channel. Do not proceed to full proposal.	Representative not present, eval criteria not received as of 10/12/17	Total weighted score - 31: This project will add side-channel habitat in reach Lewis 2 Tidal D, which is used by upper basin populations for migration, and potentially rearing. This project targets a medium priority reach for regional recovery (EDT Tier 2), with a medium potential for fall Chinook and low potential for chum, coho, and winter steelhead population performance improvements (LCFRB 2010). This project aims to improve off-channel/side-channel habitat and channel stability, which are identified as high priority multi-species restoration needs for ESA-listed fish in this reach (LCFRB 2010). Lewis 2 Tidal D is also identified as a priority reach for spring Chinook, coho, and steelhead in the Phase I reaches below Merwin in the Lewis River Aquatic Fund Priority Reaches (Attachment B in application materials). This project would address habitat needs for salmonid rearing and potentially spawning in the lower NF Lewis, as well as provide holding habitat for migrating upper basin fish. Please answer the following questions in the full proposal submittal: 1) Has the sponsor reached out to DNR about permit or signage requirements yet? 2) Will riparian habitat restoration occur as part of this project? 3) Are landowners amenable to a perennially flowing side-channel in front of their residences? If riparian vegetation is planted, will the property owners commit to maintaining it? The LCFRB recommends that this pre-proposal move forward to the full proposal stage. October 17, 2017 - With regard to revisiting the projects in light of the consensus process, we only have substantive concern with the group’s majority decision on whether to proceed to full proposal for one project, and that is the Cowlitz Conservation District’s Lewis River Reach 2 Side Channel project. All parties except the LCFRB recommended that the project not move forward to final application. However, we question whether the technical and permitting questions raised are fatal flaws, or could be addressed through a final application submittal, especially given the sponsors track record at successfully completing projects. Since we missed the in-person scoring meeting, perhaps additional rationale was provided that we are not aware of. That being said, from a consensus standpoint, we are willing to go along with the majority of the members recommendation that only the USFS project move forward. Perhaps for next year we need to revisit the topic as a group. We may need to provide more clarity as far as submittal requirements for both the preliminary and final proposals, to ensure sponsors know exactly what bar they need to reach.	Bob Rose informed the Utilities that Yakama Nation will not be submitting responses for criteria. He is confident ACC is doing a great job.	The Forest Service has reviewed the Pre-Proposal and has determined that it "meets" the aquatic fund objectives and priorities. However, more detail and design is needed to render a yes. Do not proceed to full proposal.
No	4	Fisher Protocols, LLC	Salmon Habitat Baseline Quantification Assessment of the Upper Lewis River Watershed	\$ 200,000.00	Total weighted score - 27.5: Extensive habitat information was collected for the habitat restoration in lieu of fish passage evaluation (In Lieu). It is not a good use of the Aquatic Funds because it is a redundant effort. Do not proceed to full proposal.	Representative not present, eval criteria not received as of 10/12/17	Total weighted score - 22: Carrying capacity and limiting factor analyses were recently updated in all reaches upstream of Merwin Dam for coho, winter steelhead, and spring Chinook (New Information for Lewis River Future Fish Passage In Lieu Decision, April 2016). As part of this recent work, Cramer Fish Sciences estimated current spawning and seasonal rearing habitat capacity for each species, as well as smolt production potential by reach. Combined, this new information provides a sound technical basis for identifying biological bottlenecks, targeting both the type and location of restoration work, and prioritizing projects for funding, to ensure the greatest impact on population-scale performance. This monitoring proposal could support funding objectives and priorities by estimating spawning and rearing habitat capacity in the upper NF Lewis River. However, we are uncertain how this project would result in sufficient new information that would further refine project identification and selection. The LCFRB recommends that this pre-proposal move forward to the full proposal stage. However, the sponsor should articulate in the final proposal how this effort will substantively augment the updated technical foundation, and further refine and enhance the project identification and selection process.	Bob Rose informed the Utilities that Yakama Nation will not be submitting responses for criteria. He is confident ACC is doing a great job.	Project does not support reintroduction efforts. No, do not proceed to full proposal.

Cowlitz Indian Tribe			
USFWS	Utilities	NMFS	
Comments	Comments	Comments	Comments
Total weighted score - 11: EF Lewis Side Channel & etc.: This pre-proposal and assembly of projects is fatally flawed in several areas and should not proceed to final proposal . Generally, the projects are not scoped in a way that will provide direct benefits to target populations. The projects appear to be maintenance measures for previous projects that have largely failed due to watershed processes that had not been adequately identified during initial scoping and construction. Dredging sediments ignores the primary watershed processes responsible for the problem, and is not an appropriate use for Aquatic Fund monies. The project references “beaver deceivers” and other measures that are apparently not included in the cost estimates or plans. The attachments do not appear to align with the proposed actions. The organization does not have substantial experience with habitat restoration, and Mr. Dyrland’s participation as project lead does little to improve the project’s likelihood of success.	Representative not present, eval criteria not received as of 10/12/17	Total weighted score - 18: Only meets one of the Fund objectives so Does Not Meet A. In addition this is not a priority reach. Rated Evauation criteria B as 4 points because objectives are not clear and details are lacking. Rated Criteria C as 4 mainly because the likelihood of meeting project objectives is low, details are lacking and monitoring would just use Hobos to monito temperature. Rated Criteria D as 4 mainly because there are adequate numbers of personel involved. Rated Criteria E as 2 because proposal is week on budget and detailed schedule. Do not proceed to full proposal .	Does not meet A - Consistency with Fund Objectives and Priorities. Do not recommend proceeding to final proposal .
Total weighted score - 46: Recommend proceeding to final proposal . This is an extremely strong proposal, clearly and concisely written, appropriately sited and scoped, and seems likely to succeed in achieving its objectives. It appears to be precisely targeting the highest priority limiting factors and life stages with appropriate treatments in high-priority areas. The final proposal should include the methods employed or to be employed for determining scour depth and resulting structure embedment depth, and the conceptual designs should be updated as necessary. The proposal states that full-length cedar or Douglas fir from adjacent stands will be included, NEPA pending. If the availability of those logs is uncertain, a contingency plan for improving stability with smaller wood pieces from the Forest Service conservation harvest stand should be included in the final proposal.	Representative not present, eval criteria not received as of 10/12/17	Total weighted score - 45: Meets all objectes of Criteria A. This is a Priority Reach. Rated Criteria B as 16 because most of the bulleted items are met. Rated Criteria C as 16 because scientific validity ia evident and measures fit the identified aquatic needs. Rated Criteria D as 4 Adequate personel exist and permitting capabilities are evident. Rated Criteria E as 4 because the objectives are met. Proceed to full proposal .	Yes, proceed to full proposal.
Total weighted score - 36: This appears to be a promising location for habitat restoration work in an identified priority reach. The proposal is clearly targeting appropriate species and limiting factors, but would be strengthened by more clearly linking Roni’s prioritization with proposed actions, since EDT available from the LCFRB/SalmonPort does not include spring Chinook in the lower river (noting the presence of the release site is helpful, but tailoring habitat needs the outmigrants would be helpful). The proposal narrative suggests using sill structures, which need to be fully described (form and function) for reviewers to determine likelihood of success. Given the tidal nature of the site, flow patterns and sedimentation may not be adequately predicted by simple 1-D modeling or flow estimation as described in the proposal. The project timeline appears to be overly optimistic with regard to permitting, allowing only a few months for permits that often take many months to a year (USACE NWP 27). Further lengthening the permit timeline, without SRFB funding, the sponsor will be required to undergo more complex permitting since the 4(d) Limit 8 section 7 self-certification is not applicable, and the WDFW streamlined fish habitat permitting pathway would not likely apply. The sponsor notes that the project is subject to State Owned Aquatic Land (SOAL) permitting, but if the project is located partially or in whole on SOAL, then a landowner acknowledgement form should be included from DNR, and the sponsor should discuss this project with SOAL representatives thoroughly before applying. SOAL is not a permitting pathway—it is a landownership, and one with complex interests that must be addressed prior to the final proposal. The proposed monitoring section needs substantial revision. Do not recommend proceeding to final proposal .	Representative not present, eval criteria not received as of 10/12/17	Total weighted score - 35: This is a priority Reach. Objectives of Criteria A are all met. Rated Criteria B as 16 because the proposal is well thought out and organized. Rated Criteria C as 16 because scientific validity is evident and the concepts are sound. Rated Criteria D as 4 because the ability to implement the project is evident although the funding extends out over 2 years. Rated Criteria E as 3 mostly because the project is protracted and can’t be implemented in one year. Numerous concerns about location, functionality, scour depth and needed structural design. Do not proceed to full proposal .	Do not recommend proceeding to final proposal .
Does not meet A - Consistency with Fund Objectives and Priorities. Do not recommend proceeding to final proposal .	Representative not present, eval criteria not received as of 10/12/17	Total weighted score - 0: Only meets one of the Fund objectives so Does Not Meet A. This proposal could arguably be attributed to all the priority reaches but it is not a tangible habitat project. In addition, it does not make sense to go through the effort of applying the Fisher Protocols to the Lewis River when all the decisions have relied on EDT. It is not likely, given the extent of stream reaches in the Lewis River watershed that all of them can be covered in 2 to 3 months. Consequently, did not rate all the Objective Criteria because, while this may help to focus habitat work, in the end we may be duplicating Effort similar to EDT with no habitat improvement to show for it. Do not proceed to full proposal .	Does not meet A - Consistency with Fund Objectives and Priorities. Do not recommend proceeding to final proposal .

Lewis River Aquatic Fund - Utilities' Evaluation of 2016/2017 Project Proposals														
No.	Applicant	Project Title	Project Schedule	Benefit	Bull Trout	Project Partners	Funding	Cost Share?	Consistency with Fund Objectives	Selected for Utilities for Full-Proposal - Y or N	Comments - Utilities			
1	Salmon Creek Flyfishers	East Fork of LR Side Channel & Mason Creek Development & Maintenance	2018	Expand and improve the side channel and feeder stream network on the EF of the Lewis. Provide more protection to native salmon and steelhead fingerlings. Expand protection efforts making Mason Creek a more effective feeder stream by deepening, planting and placing a beaver deceiver at its confluence with the EF.	No	Friends of EF, Boy Scouts, Eagle Scouts and Healing Waters Vets	\$ 29,400.00	Yes- In-kind	1 Benefit Recovery Support reintro. Enhance habitat	2 3	N	Only meets one of the Fund objectives so Does Not Meet A. In addition this is not a priority reach. Rated Evaluation criteria B as 4 points because objectives are not clear and details are lacking. Rated Criteria C as 4 mainly because the likelihood of meeting project objectives is low, details are lacking and monitoring would just use Hobos to monitor temperature. Rated Criteria D as 4 mainly because there are adequate numbers of personnel involved. Rated Criteria E as 2 because proposal is week on budget and detailed schedule. Erik - while the project has merit (toured it in 2015), benefits would be directed towards East Fork steelhead not North Fork.		
2	USDA Forest Service	Lewis River 21 Phase II	2018/2019	Project goal is to address stream channel habitat structure & bank stability and off channel & side channel habitat restoration needs and thereby improve egg incubation and summer rearing by improving three limiting factors; channel stability, habitat diversity and key habitat.	No	Mt. St. Helens Institute	\$ 185,000.00	Yes	1 Benefit Recovery Support reintro. Enhance habitat	2 3	Y	Meets all objects of Criteria A. This is a Priority Reach. Rated Criteria B as 16 because most of the bulleted items are met. Rated Criteria C as 16 because scientific validity is evident and measures fit the identified aquatic needs. Rated Criteria D as 4 Adequate personnel exist and permitting capabilities are evident. Rated Criteria E as 4 because the objectives are met. Erik - I support this proposal		
3	Cowlitz Conservation District	Lewis River Reach 2 Side Channel	2018/2020	Project goal is to restore 1240 feet of side channel habitat in the Lewis River (Reach Lewis 2 Tidal D). This includes reconnecting the channel with the Lewis River, placing large woody debris structures in the side channel to maintain connectivity and increase habitat quantity and diversity within the channel, and implement riparian restoration to fully restore riparian function at the site to maintain the site over the long term.	No	Landowners Andrew, Loud and Bond	\$ 155,500.00	Yes	1 Benefit Recovery Support reintro. Enhance habitat	2 3	Y	This is a priority Reach. Objectives of Criteria A are all met. Rated Criteria B as 16 because the proposal is well thought out and organized. Rated Criteria C as 16 because scientific validity is evident and the concepts are sound. Rated Criteria D as 4 because the ability to implement the project is evident although the funding extends out over 2 years. Rated Criteria E as 3 mostly because the project is protracted and can't be implemented in one year. Erik - I support this proposal		
4	Fisher Protocols, LLC	Salmon Habitat Baseline Quantification Assessment of the Upper Lewis River Watershed	2018	Conduct onsite surveys of the upper Lewis River watershed to quantify the existing salmon spawning and rearing habitat in all Lewis River Aquatic Fund (LRAF) Priority Reaches, or entire priority watersheds, using the <i>Fisher Protocol</i> © Rapid Assessment Method. Project deliverables include, baseline data sets of present salmon spawning and rearing habitat quantity, locations, and adult carrying capacity per watershed and stream reach. Results will have direct application to LCFRB watershed recovery plan goals, and to LRAF goals by establishing baseline salmon habitat locations, quantity, and adult carrying capacity as a benchmark prior to future instream habitat restoration projects implementation.	No	None	\$ 200,000.00	No	1 Benefit Recovery Support reintro. Enhance habitat	2 3	N	Only meets one of the Fund objectives so Does Not Meet A. This proposal could arguably be attributed to all the priority reaches but it is not a tangible habitat project. In addition, it does not make sense to go through the effort of applying the Fisher Protocols to the Lewis River when all the decisions have relied on EDT. It is not likely, given the extent of stream reaches in the Lewis River watershed that all of them can be covered in 2 to 3 months. Consequently I did not rate all the Objective Criteria because, while this may help to focus habitat work, in the end we may be duplicating Effort similar to EDT with no habitat improvement to show for it. Erik - Agreed. not supportive of duplicating work already done or using funds for study purposes.		
Totals							\$	569,900.00						
Total non-bull trout Funds							\$	-						
Bull Trout Funds							\$	-						
Fund Objectives:														
1. Benefit fish recovery throughout the North Fork Lewis River, priority to federal ESA-listed species														
2. Support the re-introduction of anadromous fish throughout the basin														
3. Enhance fish habitat in the Lewis River Basin, with priority given to North Fork Lewis River														

APPENDIX H
EMAIL DATED MARCH 19, 2018
TO THE ACC FROM K. McCUNE – PACIFICORP
LEWIS RIVER 21 PHASE II; 2017 /2018 AQUATIC FUND;
USDA FOREST SERVICE PROJECT APPROVED FOR FUNDING

McCune, Kimberly

From: McCune, Kimberly
Sent: Monday, March 19, 2018 8:50 AM
To: Amanda Froberg; Amelia Johnson; Asher, Eli; Bob Rose; Brice Crayne; Bryce Glaser; Bryce Michaelis; Daniel Rawding; David Howe; Doyle, Jeremiah; Ed Meyer; Ferraiolo, Mark; Hudson, Michael; James Byrne; James H Malinowski; 'Kale Bentley'; Karchesky, Chris; Kelley Jorgensen; Lesko, Erik; Mariah Stoll-Smith Reese; 'Melody Tereski'; 'Michelle Day'; Morgan, David; Nathan Reynolds; Olson, Todd; 'Patrick Lee'; Peggy Miller; Pienovi, Levi; Rhidian Morgan; Roberts, Aaron; 'Ruth Tracy'; Samuel Kolb; Serdar Carol; Steve Manlow; Taylor Aalvik; Tim Romanski; Tom Wadsworth; Weatherly, Briana; Whitesel, Timothy
Subject: Lewis River 21 Phase II; 2017/2018 Aquatic Fund; USDA Forest Service Project Approved for Funding

Attn: ACC Representatives

Please be advised that no additional comments were received by the March 16th deadline. Consensus was reached on a final 2017/2018 Resource Project list as follows:

Applicant	Project Title	Approved Funding	Decision
USDA Forest Service	Lewis River 21 Phase II	\$177,000	YES

Thank you.

Kimberly McCune
Sr. Business Administrator
PacifiCorp – Hydro Resources
825 NE Multnomah St., Suite 1500
Portland, OR 97232
Ph: (503) 813-6078

From: McCune, Kimberly
Sent: Thursday, March 08, 2018 3:26 PM
To: Amanda Froberg <afroberg@cowlitzpud.org>; Amelia Johnson <ajohnson@lcfrb.gen.wa.us>; Asher, Eli <easher@cowlitz.org>; Bob Rose <rosb@yakamafish-nsn.gov>; Brice Crayne <bricecrayne@outlook.com>; Bryce Glaser <glasebgg@dfw.wa.gov>; Bryce Michaelis <bmmichaelis@fs.fed.us>; Daniel Rawding <Daniel.Rawding@dfw.wa.gov>; David Howe <David.Howe@dfw.wa.gov>; Doyle, Jeremiah <Jeremiah.Doyle@pacificorp.com>; Ed Meyer <ed.meyer@noaa.gov>; Ferraiolo, Mark <Mark.Ferraiolo@pacificorp.com>; Hudson, Michael <michael_hudson@fws.gov>; James Byrne <byrnejim7@gmail.com>; James H Malinowski <jim.malinowski@icloud.com>; 'Kale Bentley' <kale.bentley@dfw.wa.gov>; Karchesky, Chris <Chris.Karchesky@pacificorp.com>; Kelley Jorgensen <kjorgensen@pnfarm.com>; Lesko, Erik <Erik.Lesko@pacificorp.com>; Mariah Stoll-Smith Reese <mariah@lelooska.org>; 'Melody Tereski' <Melodyt@lcfrb.gen.wa.us>; 'Michelle Day' <michelle.day@noaa.gov>; Morgan, David <dmorgan@pnfarm.com>; Nathan Reynolds <nreynolds@cowlitz.org>; Olson, Todd <Todd.Olson@pacificorp.com>; 'Patrick Lee' <patrick.lee@clark.wa.gov>; Peggy Miller <peggy.miller@dfw.wa.gov>; Pienovi, Levi <Levi.Pienovi@pacificorp.com>;

APPENDIX I
Lewis River 21 Phase II

FULL PROPOSAL FORM

Lewis River Aquatic Fund

Form Intent:

To provide a venue for an applicant to clearly indicate the technical basis and support for proposed project. Specifically the project's consistency with recovery plans, Settlement Agreement Fund objectives and priorities: technical studies and assessments which support the proposed action and approach.

Full Proposal format:

Please complete the following form for your Full Proposal. Maps, design drawings and other supporting materials may be attached.

The deadline for a draft Full Proposal Form submission is **December 15, 2017**. Please submit materials to:

Frank Shrier
PacifiCorp – LCT 1500
825 NE Multnomah Street
Portland, OR 97232

1. Project Title

Lewis River 21 Phase II

2. Project Manager (name, address, telephone, email)

Greg Robertson
Mount St. Helens National Volcanic Monument
42218 NE Yale Bridge Road
Amboy, WA 98601
360-449-7833
360-449-7801-FAX
gregrobertson@fs.fed.us

3. Identification of problem or opportunity to be addressed

The Lewis River 21 Phase II site is a moderately confined reach with a relatively low gradient (<1%) located between Rush Creek and Little Creek confluences (Figure 1). Pool depths are shallow (<3') for a large river and contributes to the observed high bankfull width to depth ratios. Recently deposited large wood complexes from the 2015 high flow event have improved channel conditions although the large wood is highly mobile, lacking embedded key pieces that would offer long term stability.

The Lewis River 21 Phase II project area site problems are unstable off channel habitat and banks, shallow pool depths, limited floodplain connectivity, and low levels of suitable spawning gravels. All of these problems contribute to primary limiting factors of poor channel stability, reduced sediment routing, and limited key habitat which are from lack of large wood causing homogeneous water depths throughout the project reach.

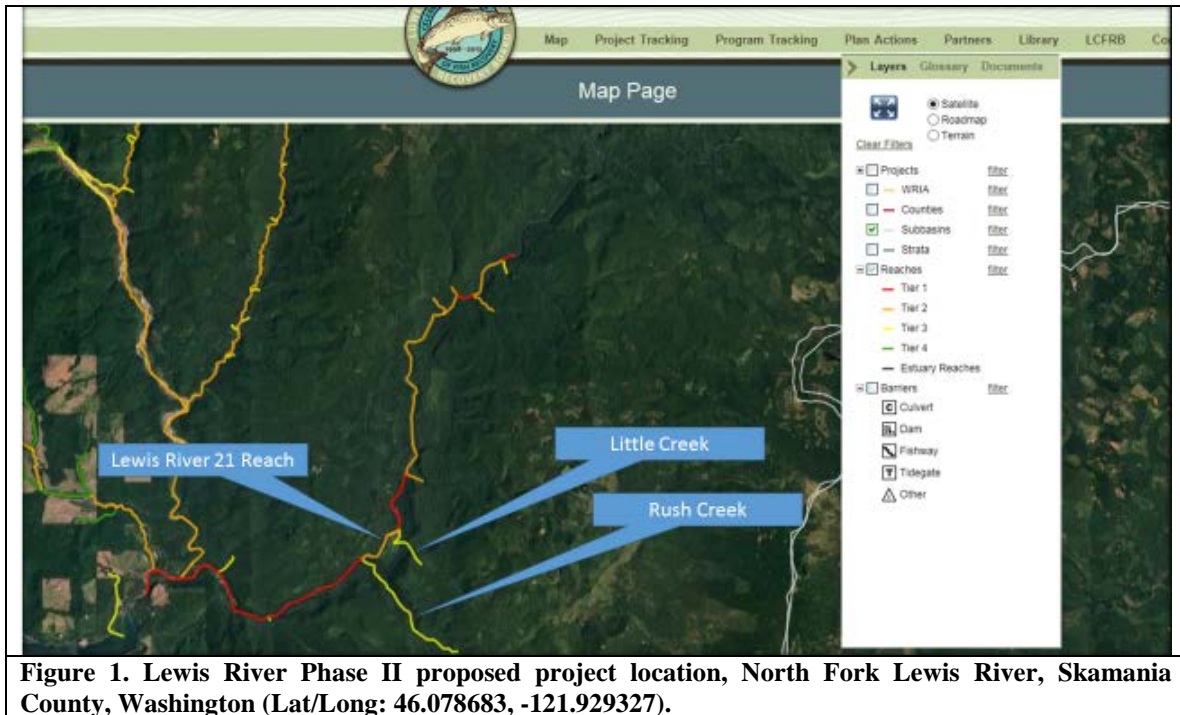


Figure 1. Lewis River Phase II proposed project location, North Fork Lewis River, Skamania County, Washington (Lat/Long: 46.078683, -121.929327).

The existing side channels have been observed by Forest Service staff over the last decade to be intermittently active during high flow conditions, dependent upon the flux of large wood on the mid channel gravel bar. Currently, the side channel complex is active during high flow event and several pieces of large wood have been deposited on the gravel bar that bisects the project reach (Figure 1). These few large wood pieces have been observed to facilitate sediment routing through the project reach and currently allow flow in the side channel during high flow events. Stabilizing the large wood on the gravel bar by adding large wood apex structures will capture and retain future large wood recruitment, allowing future perennial access into the side channel complex and restore long term sediment routing through the reach. Bank structures will work with the apex structures to prevent further lateral channel movement into the bank and will promote floodplain activation by reducing the cross-sectional area of the main channel. A secondary action of the bank structure will also stabilize the eroding bank of the terrace, reducing associated sediment input, creating deeper pools through constriction scour and increasing spawning gravel deposition.



Figure 2. Upstream location for an apex structure looking downstream. Note the several pieces of wood that have been deposited (left center of photo) during the December 2015 high flow event (photo taken September 2017).

4. Background

The goal of the Lewis River 21 Phase II project is to address stream channel habitat structure and bank stability, and off channel and side channel habitat restoration needs and thereby enhancing egg incubation and summer rearing by improving three limiting factors; channel stability, habitat diversity and key habitat.

Lewis River 21 Phase II goal is to enhance fish habitat quality in the Lewis River by:

- Improving habitat complexity and diversity in the side channel using LWM
- Providing refugia during winter flows for juvenile salmonids.
- Providing rearing opportunities for juvenile salmonids during summer months.
- Providing increased spawning opportunities for adult salmonids.

The project goals are consistent with the Aquatic Fund objectives.

Objective 1: *Benefit fish recovery throughout the North Fork Lewis River, with priority to federal ESA-listed species.*

This project will contribute to the recovery of these species by increasing the amount and quality of rearing in side channels. In addition, greater pool depths and spawning areas will be associated with the log complexes.

Objective 2: *Support the reintroduction of anadromous fish throughout the basin.*

Juvenile anadromous salmonids will have consistent quality rearing and refugia when this project is complete, promoting juvenile survival and directly contributing to the spring Chinook and coho salmon, and steelhead trout reintroduction efforts.

Objective 3: *Enhance fish habitat in the Lewis River Basin-, with priority given to the North Fork Lewis River.*

This project is located in the North Fork Lewis River Basin, Lewis River Reach 21. It is well documented that coho salmon juveniles prefer slow water habitats with large wood components and Chinook salmon prefer mainstem spawning habitat. This project restores and creates additional spawning area in the mainstem channel and high quality slow water habitat in adjacent side channels.

The LCFRB Plan (2010) summarized the limiting factors for Upper Lewis salmonid species, spring Chinook, coho, and winter steelhead life stages (LCFRB). The most critical life stage was egg incubation and the second most critical life stage was 0-age summer rearing for all three species. For spring Chinook egg incubation, channel stability and sediment were primary limiting factors, and key habitat a secondary limiting factor. Competition (hatchery) and habitat diversity were primary limiting factors, and food, predation and key habitat secondary limiting factors for spring Chinook 0-age summer rearing.

Three of the six ‘High’ Rated Multi-Species Priority Restoration Needs for Lewis River 21 listed in the Lower Columbia Fish Recovery Board’s SalmonPORT will be addressed in this project: 1) Floodplain function and channel migration processes, 2) Off Channel & side channel habitat, and 3) Stream channel habitat structure & bank stability.

Ronni and Timm (2016) reviewed existing habitat and environmental assessment data for spring Chinook, coho and winter steelhead and conducted a limiting factor analysis to identify limiting habitat and life stages. Similar to the LCFRB Plan, summer rearing habitat was identified to be limited in the stream systems above Swift Dam. Ronni and Timm emphasized estimating suitable rearing habitat (littoral zone, <3m deep) in the reservoir, and changing the depth criteria by one or two meters had a large influence in determining if spawning habitat would be limiting. Sediment load in Lewis 21 reach was the factor affecting summer rearing for all three species. Sediment load was also affecting winter rearing habitat for steelhead in this reach. High quantities of fine sediments (21.9 % fines) from surface [erosion], mass wasting and roads were estimated using Fullerton et al. (2006; 2010a, b).

Five major categories of restoration actions for the goal of improving summer and winter rearing were listed within the 25 priority reaches identified and then adopted by the ACC.

For Lewis River 21, large wood placement was recommended along with road restoration to improve summer and winter rearing.

D. J. Warren & Associates, Inc. (2016) used the EDT model to generate habitat limiting factors and reach restoration analysis. The EDT model determined habitat factors that limited salmon and steelhead production based on the differences in habitat inputs between current and historical conditions. Historical conditions were defined by functioning Level 3 Survival Factors. Using this methodology, Lewis 21 has key habitat identified as the limiting factor. Key habitat is defined as '*The relative quantity of the primary habitat types(s) utilized by the focus species during a life stage; quantity is expressed as percent of wetted surface area of the stream channel*'.

The U.S. Forest Service identified the Upper Lewis River mainstem habitat as high priority reaches for Chinook and steelhead, while side channels and other slow water habitats were identified as high priority for coho. The mainstem habitat has been negatively affected by past timber harvest reducing large wood recruitment and by past sediment production from roads that was delivered to the mainstem during high flow events (USFS 1995b).

5. Project Objective(s)

The project objectives to address the problems are:

- Stabilize two naturally occurring large wood depositional areas that were recruited in the December 2015 flood event on mid channel gravel bars.
- Stabilize and increase off channel habitat and increase channel complexity with large wood to improve rearing habitat
- Stabilize higher elevation terrace banks and improve channel migration processes by distributing flow into side channel
- Increase floodplain connectivity by displacing flow onto adjacent floodplains during high flow events,
- Increase available spawning gravel and increase pool depths by sorting and retaining gravels in two pool tail crests and increasing scour in two pools.

The project will construct 4 log complexes and place logs along the banks of the north side channel (Figure 3). The two apex large wood structures will result in enhanced large wood deposition as the structures will be designed and built to remain in place and collect additional large wood through time. The two apex large wood structures will also sort and retain gravels in two pool tail crests and create constriction scour in the associated pools. Positioning two south bank structures at opposing locations to the apex jams will increase north bank floodplain connectivity by decreasing channel cross-sectional area and dissipating flow toward the north side (right side looking downstream).

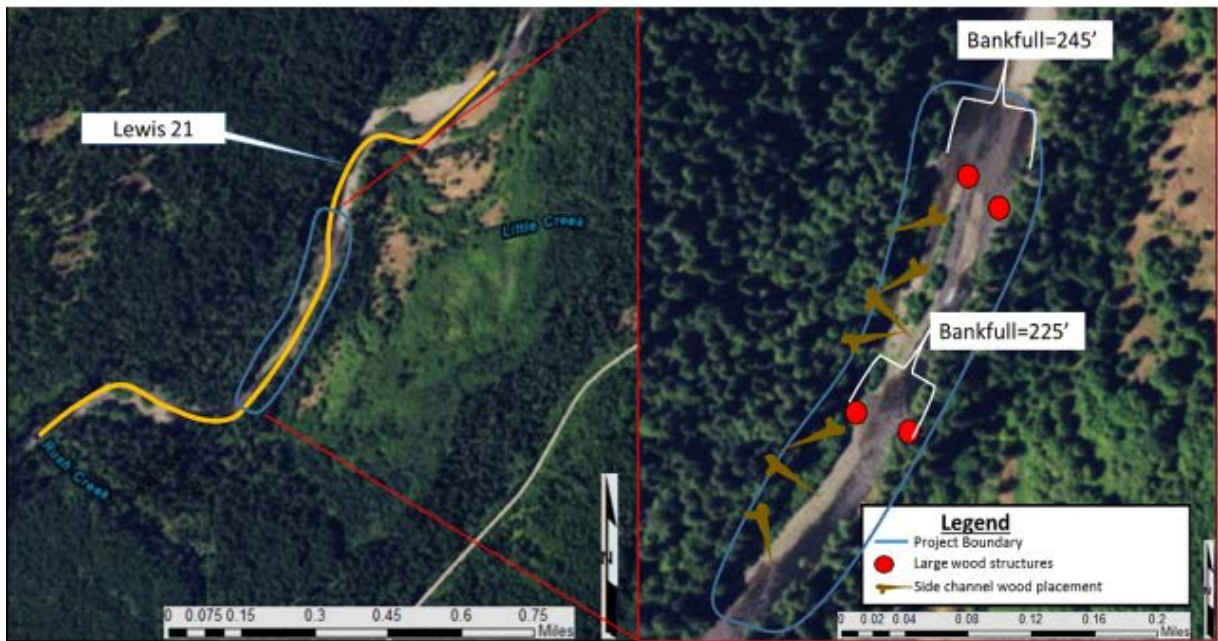


Figure 3. Phase II project area showing proposed structure locations and channel dimensions.

The short term benefits of the project will be the immediate juvenile refuge from high flow events in the side channel, floodplain, and large wood structure habitats during the first winter months and future winter flows. Several small channels are present in the lower elevation floodplain area on the north side of the channel that would be reactivated at lower flows than the current mainstem channel conditions will allow. This results in wetted small channels within approximately thirty two acres of floodplain habitat from the top of the project reach downstream during high flows. Long term benefits will include deeper pools maintained by high flow scour, increased spawning gravel habitat from gravel sorting by the added channel roughness and a reduction in channel shear stress at high flows by inundating the adjacent floodplain to the north.

Other benefits both short and long term outcomes would be the reduction in sediment inputs from the stabilization of the eroding bank of the upper terrace while complementing the apex structure to occupy cross-sectional area and to maintain side channel longevity. This would also encourage other natural processes such as channel migration and further side channel development to occur on the adjacent lower elevation floodplain.

These actions would also complement the previously funded Lewis River Phase I project by reducing flows in the main channel from the wetted side channels upstream. By reducing the flow in the main channel, a reduction in substrate particle size can be expected.

6. Tasks

Task 1: NEPA and required permits.

- Field work for this NEPA document was accomplished during the fall and winter of 2017/18 and a final decision memo is to be signed by March 2018. The project would be implemented July 2019.
- Instream restoration activities are covered under a Memorandum of Understanding (MOU) with the Washington Department of Fish and Wildlife, a regional US Army Corps of Engineers RGP-8 permit, and an ARBO II programmatic consultation with the USFWS and NOAA.
- The Forest Service is the landowner and project sponsor, and the District Ranger is supportive of this project.

Task 2: Project Design.

- Finalize project design and project preparation details will be completed by March 2018. Preliminary designs were completed during in 2017.
- Surveys will be done to develop project specific elevations for excavation and final structure designs. This includes longitudinal profile and cross-sectional information that will be used as designs are finalized.
- Fifteen trees will be tipped over from the 30 acre northern adjacent riparian area. A 35 acre Peppercat timber sale unit is set aside to use for fish habitat restoration activities over the next ten years. An area within this stand will be designated for harvest operations for this project. Additional material may be acquired from PacifiCorp Swift Reservoir Cleaning operations.

Task 3: Project Implementation

- Develop equipment, logging, and instream implementation through a Request for Quotation using a time and equipment contract.
- Qualified USFS personnel will administer the contract to ensure project specifications are met.

Task 4: Monitoring

- Baseline monitoring will occur prior to project implementation and include a longitudinal profile, cross-sections, pebble counts, and photo-documentation.
- Monitoring will occur following project implementation and will continue on an annual basis for several years following project completion. Monitoring will provide information on whether the project objectives were met by quantitatively measuring pre and post project metrics. MSHI will provide two interns and volunteers for baseline and post implementation monitoring under supervision by the USFS.
- A monitoring report will be written each year following project implementation for three years. MSHI will provide raw data in excel format, provide analysis of data and will complete the report with USFS assistance.

7. Methods

Project designs to achieve these goals and objectives are to provide roughness in the form of four large wood structures within 1300 feet (0.25 miles) of river channel using 300 pieces of large wood from a USFS harvest unit and 15 whole trees from the 30 acre

riparian area to the north (Figure 3). Large wood would also be added to the lower energy side channel to promote and maintain pool scour, high and low flow juvenile refugia, and spawning gravel sorting. Wood added to the side channel would be anchored or buried in a manner to be retained at high flows. Scour depth was estimated as 16 feet for Q50 discharge (Appendix A). Positioning these structures to a depth approximating the scour depth and using 3-4 larger key pieces (24-36" DBH) for each structure will result in a self-maintaining large wood structure.

Two apex jams would each occupy approximately 30 feet of cross-sectional area and two bank structures that would be constructed opposing the apex bar structures would occupy approximately 18 feet of cross-sectional area (Figure 4 and 5). Between the two bank and apex structures, approximately 20% of the cross-sectional area of the channel would be occupied. Both structures would be built to exceed the eroding terrace bank height on the south side of the channel which would be approximately 13 feet above the channel thalweg (Figures 6, 7, and 8). This would provide two feet of structure height above the top elevation of the highest floodplain surface on the south side and be approximately seven feet higher than the lower elevation floodplain on the north side. Localized scour will occur at these two locations that will deepen and maintain the existing shallow pools. Scour beyond the structures is not expected other than local scour at the structure locations, thus further vertical channel incision is not expected. However, aggradation is expected upstream of the structures from a reduced hydraulic gradient caused by the constriction of the two opposing bank and apex structures.

Equipment access to attain tipped trees within the northern floodplain will require excavation of the north bank which is also the location of a river adjacent trail section. Rehabilitation of these excavated areas will include the formation of an inlet to the floodplain area at an elevation that would allow bankfull flows or greater to readily access the floodplain's small disconnected channels. The more frequent inundation of these small channels within the floodplain area and interaction with the trail tread is expected. A separate trail project will be designed to accommodate more frequent flows in the small channels on the floodplain not only at the trail section with the two locations where an inlet will be formed but throughout the trail section as it crosses this 30 acres floodplain area.

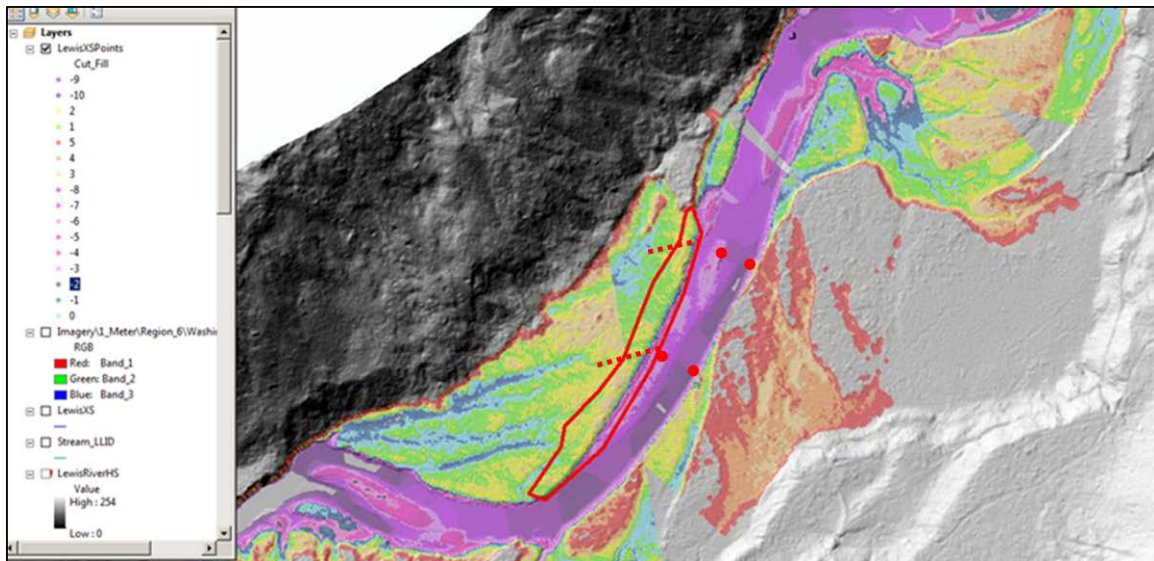


Figure 4. LiDAR elevation map showing structure locations (red dots), and future small channel areas (dashed red line). Excavation of the small channel inlet areas will be limited to 30 feet from bank edge and allow access of bankfull flows or greater.

Material will consist of naturally recruited wood on the gravel bar, imported Douglas fir (12-14" DBH) from a harvest unit, and either cedar or Douglas fir (24-36" DBH) from the northern riparian area or from the PacifiCorp Swift Reservoir spring forebay cleanout.

Tree tipping will be within a 30 acre riparian area located on the north side of Lewis River 21 reach. A USFS silviculturist has determined the stand is fully stocked with mature trees. No trees will be tipped that are providing shade to the mainstem and a wildlife biologist specifies which trees will be tipped to minimize the risk of taking trees that are suitable for wildlife habitat. A recreation specialist has provided input so that disturbance to the Lewis River trail is limited. Safety notices for trail users that tree tipping and restoration activities will be occurring during a specified time will be posted at established entry points to the project site and trail traffic will be controlled by personnel on the trail when needed. Individual trees identified for tipping will be interspersed among the 30 acres, be within denser tree clumps and therefor minimal reduction in shade and canopy cover to the riparian area structure as a whole is expected. Effects to shade within the riparian area specified will be temporary and minimal as the remaining tall tree lateral branches will grow to fill in the newly created gap and understory vegetation will also grow as an adjustment to the additional light. The multistoried structure of the stand allows for the reduction of individual trees with minimal reduction of shade as the multistoried structure creates shade from the combination of tallest trees, smaller deciduous tree species and bushes.

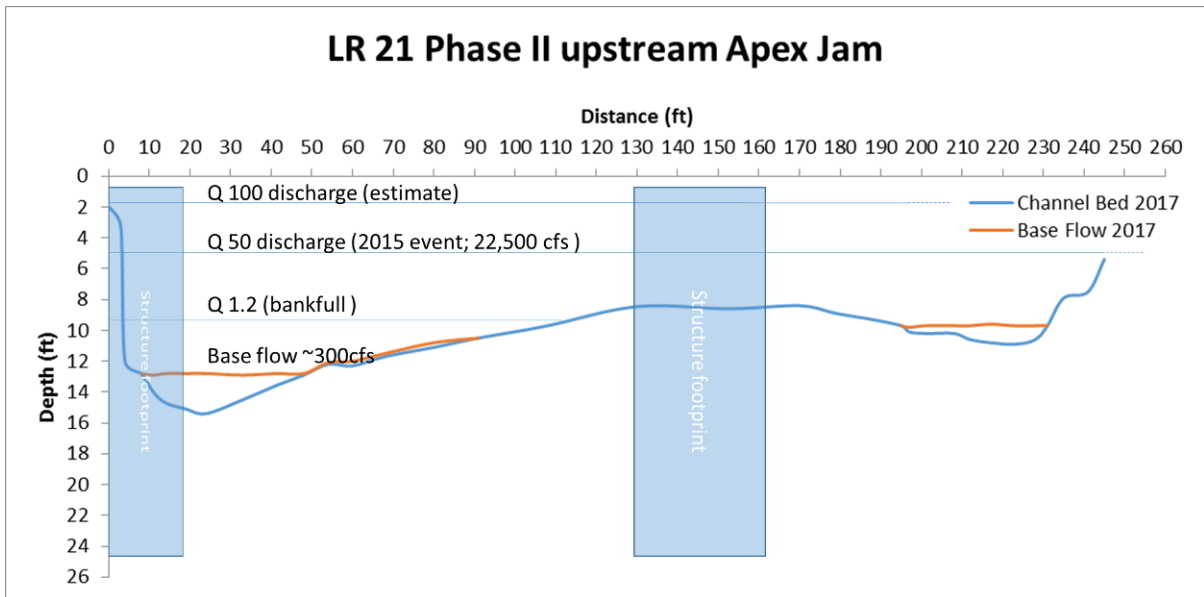


Figure 4. Cross section of upstream apex and bank structure noting structure footprint, design discharges, and bankfull width.

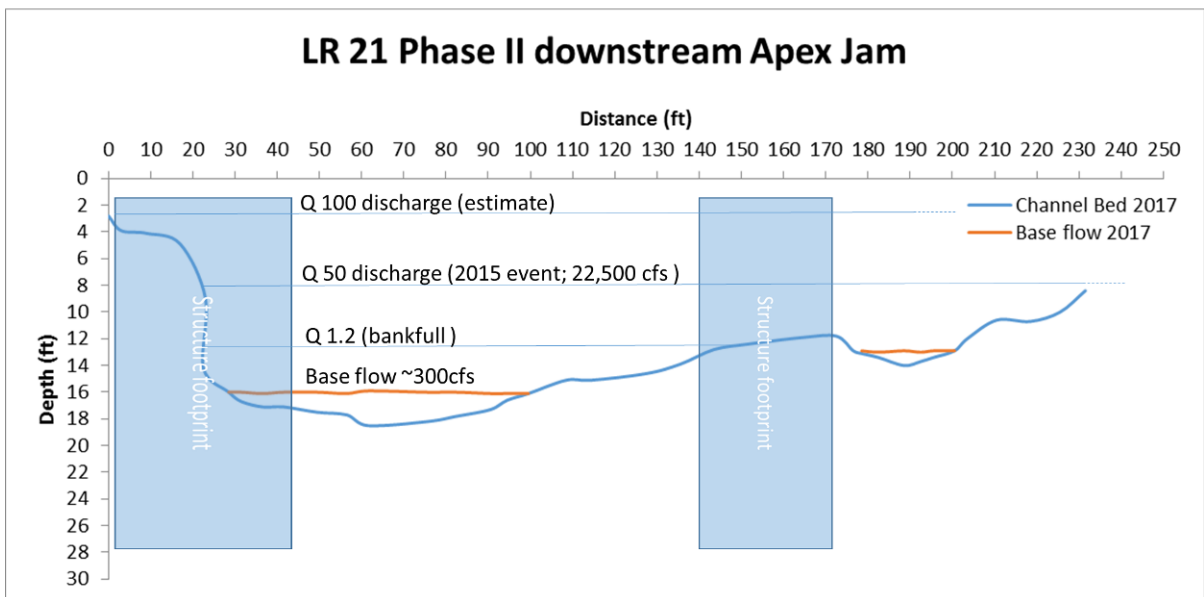


Figure 5. Cross section of downstream apex and bank structure noting structure footprint, design discharges, and bankfull width.

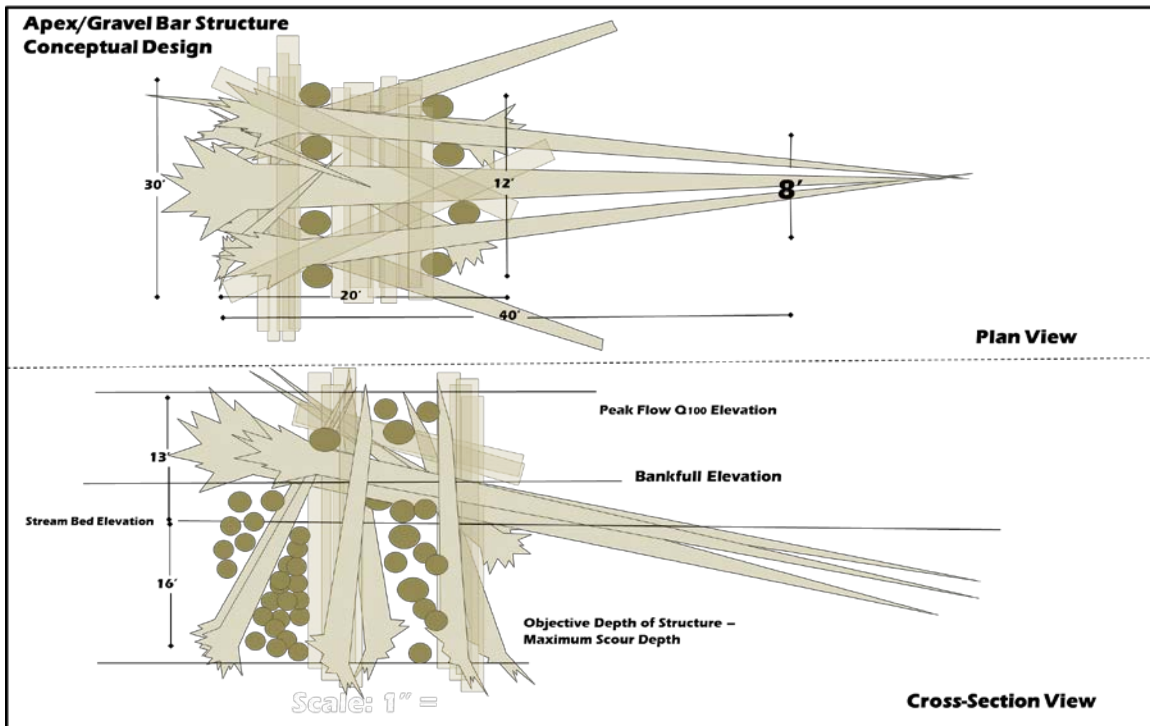


Figure 6. Conceptual apex/gravel bar structure showing proposed structure heights, widths, and scour depths.

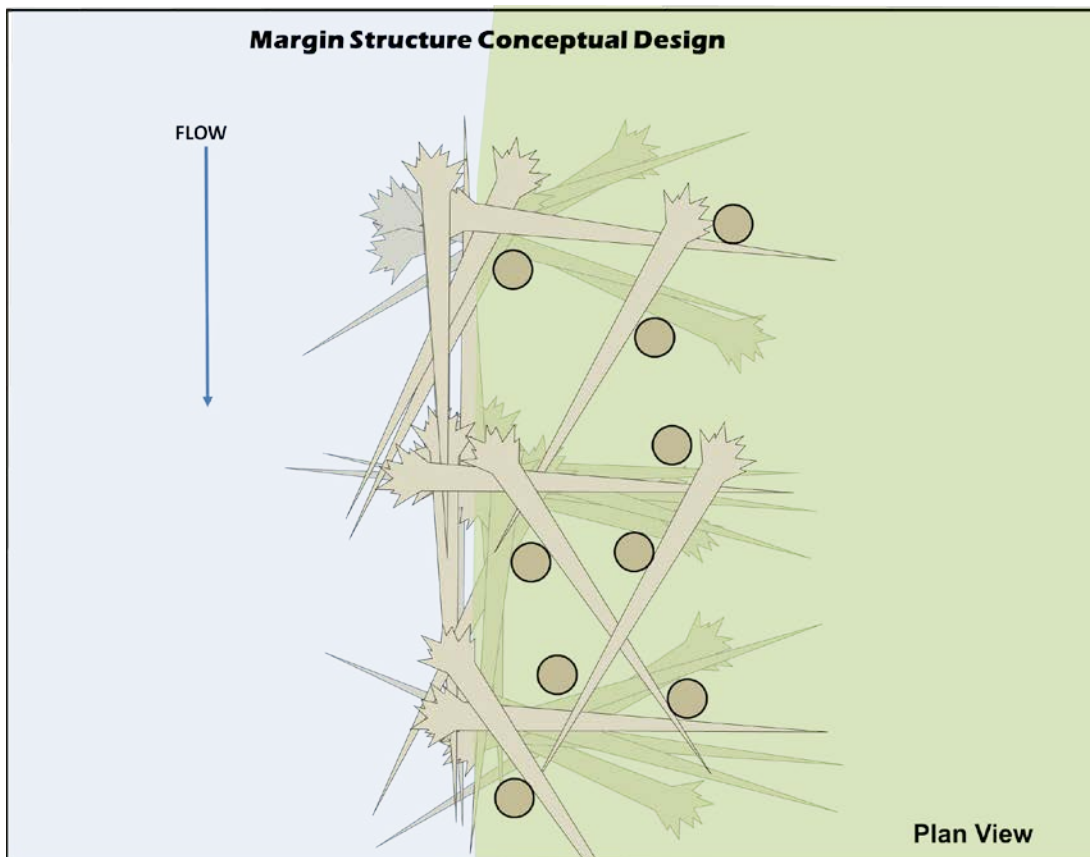
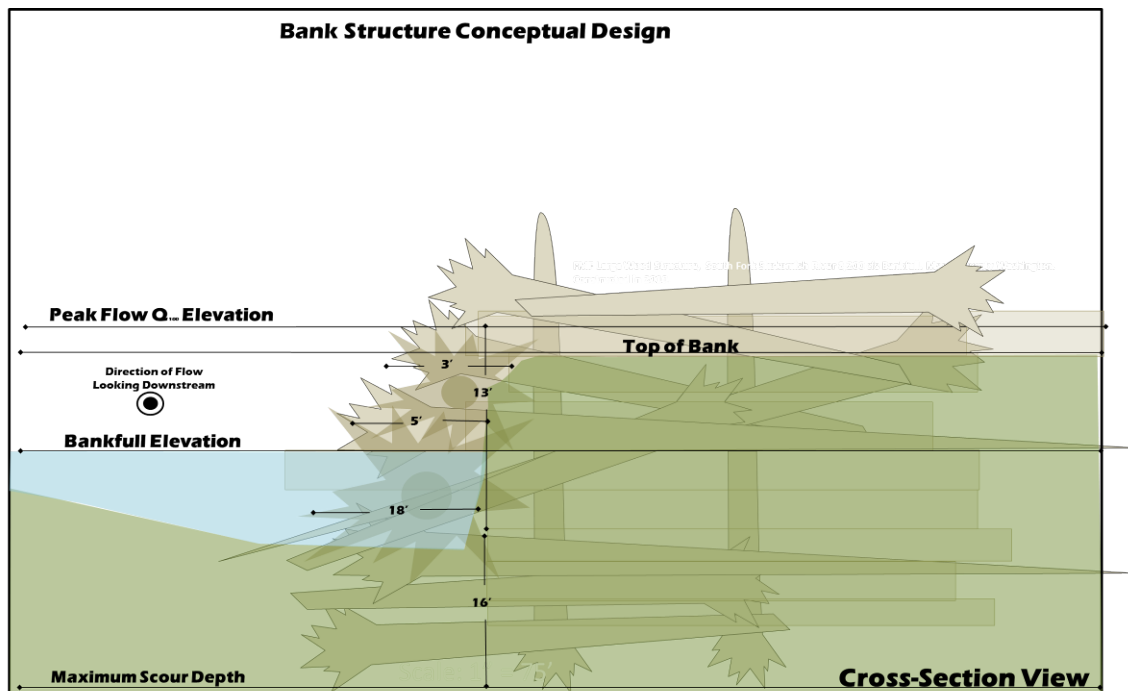


Figure 7. Conceptual plan view design of proposed bank structure key member placement.



8. Specific Work Products

Deliverable 1: Contract submission to the Forest Service contracting department for the Lewis River 21 Phase II project will be completed the first week of March, 2019 and obligated to a qualified contractor by May 1, 2019.

Deliverable 2: Tree harvest on USFS land will begin during the last week of June and will be completed and hauled to the project site for instream project implementation prior to the instream work window (July 15-Aug 15). Instream work will be completed within the instream work window. All work will be completed by October 15, 2019.

Deliverable 3: A project completion report that includes project narrative, financial information, description of project successes and lessons learned, and photo documentation of the completed project will be submitted to the ACC by February 8, 2022.

9. Project Duration

Project duration will be from September 2018 through December 2021.

The harvest and haul of the trees from USFS Peppercat 35 unit will start on the ground activities in late June 2019.

Task 1: NEPA and required permits will be completed by March 2018.

Task 2: Project Design will be completed by March 2019.

Task 3: Project Implementation will be completed by October 15, 2019

Task 4: Monitoring will be completed by December 2021. Project site visit would occur during June of 2020 or to be determined by the ACC.

10. Permits and Authorizations

Resource surveys have been completed for the Phase II project area and NEPA will be completed March 2018. As per requirements under ARBO II programmatic consultation with the USFWS and NOAA, tipped trees are selected by a wildlife biologist during a site visit immediately prior to implementation.

Permitting and BMP requirements are covered under a Memorandum of Understanding (MOU) with the Washington Department of Fish and Wildlife, a regional US Army Corps of Engineers RGP-8 permit, and an ARBO II programmatic consultation with the USFWS and NOAA.

11. Matching Funds and In-kind Contributions

Table 1. Matching funds and in-kind contributions for the Lewis River 21 Phase II restoration project.

Partner	Contribution	Funds
Forest Service	Project designs, Contracting, Permitting, Monitoring	\$28,000 In-kind
Materials from USFS	Trees with rootwads	\$150,000 In-kind
Mt. St. Helens Institute	Monitoring	\$3,000 In-kind

12. Peer Review of Proposed Project

USFS Region 6 Restoration Assistance Team (RAT) reviewed the Lewis River 21 project area on November 2, 2017. RAT project review contact information: Paul Powers, 541-433-3236. The Review is attached in Appendix C.

13. Budget

Table 2. 2019 Lewis River 21 Phase II proposed budget.

2019 Lewis River 21 Phase II proposed budget	NEPA	Final designs	Project Mgmt	Construction	Monitoring/Labor /Reporting/Coord.
Personnel Costs					
FS - Zone Team or Contract	\$5,000 (ACC)				
FS –Fish Bio and Hydrologist*		\$8,000 (IK) \$8,000 (ACC)			
FS - Fish Bio and Bio technician*			\$5,000 (IK) \$5,000 (ACC)		\$1,000 (IK) \$1,000 (ACC)
FS - Contract administrator *				\$10,000 (IK) \$10,000 (ACC)	
FS - Contract Specialist*				\$2,000 (IK)	
Mt St. Helens Institute					\$3,000 (IK) \$3,000 (ACC)
Travel			\$2,000 (IK)		
Materials					
Forest Service 300 Pieces of LWM with rootwads				\$150,000 (IK)	
Contract Payables					
Helicopter Contract				\$90,000 (ACC)	
Excavator Contract				\$25,000 (ACC)	
Logging and hauling of trees				\$30, 000 (ACC)	
Materials and Supplies			\$1,000(IK)		
Total ACC Funds \$177,000	\$5,000	\$8,000	\$5,000	\$155,000	\$4,000
<i>Total FS Funds \$178,000</i>		<i>\$8,000</i>	<i>\$7,000</i>	<i>\$162,000</i>	<i>\$1,000</i>
<i>Total Partner Funds \$3,000</i>					<i>\$3,000</i>
Project Total \$358,000					
*FS personnel estimated as \$400/day.					

Table 3. 2019 Lewis River 21 Phase II Expanded Budget.

Item	Personnel	Estimated Days/units*	Cost Per Unit	Total*
NEPA Environmental Assessment required by Federal Law	Fish Biologist Wildlife Biologist Recreation	4 3 5	\$400 per day per person	\$5,000 (ACC)
Final Designs	Fish Biologist Hydrologist Fish Technician	20 2 18	\$400 per day per person	\$8,000 (IK) \$8,000 (ACC)
Project Management	Fish Biologist Fish Technician	15 10	\$400 per day per person	\$5,000 (IK) \$5,000 (ACC)
Travel	½ ton PU	Fleet Cost 2000 miles	\$500 \$0.75/mile	\$2,000 (IK)
Construction	Contract Administration/ Prep Helicopter contract Logging and Haul contract	55	\$400 per day per person (Fish Bio – 50 days, Contract Specialist 5 days)	\$12,000 (IK) \$10,000 (ACC) \$90,000 (ACC) \$30,000(ACC) \$25,000 (ACC)
Materials & Supplies	Field Equipment, Notebooks, Misc Supplies			\$1,000 (IK)
Trees with rootwads		300		\$150,000 (IK)
Monitoring <i>MSHI</i>	Supervisor Assistant	20	\$300 per day per person	\$3,000 (IK) \$3,000 (ACC)
FS Monitoring Training	Fisheries Technician	5	\$400/day	\$1,000 (IK) \$1,000 (ACC)
Total				\$358,000

14. Photo Documentation (Per National Marine Fisheries Service's Biological Opinion for Relicensing of the Lewis River Hydroelectric Projects – August 27, 2007):

Photo documentation will be collected by photo point locations marked by rebar and identified with latitude and longitude. To provide a similar pre and post photographic view, azimuths will be included. Each photo will be labeled with a date, time, project name, photographer's name, and documentation of the subject activity. Both close up and panoramic views will be included.

Photo documentation will be included in the completion report provided to the ACC in January 2020.

15. **Insurance.** **All qualifying applicants shall comply with PacifiCorp's insurance requirements set forth in Appendix A.** The policy limits are deemed sufficient by PacifiCorp for project activities involving significant risk, including placement of large woody debris in navigable waterways, and are presumed to be sufficient for all activities likely to be funded under this Full Proposal Form. Should applicant's insurance program not meet these requirements, bid pricing should include any additional costs applicant would incur to comply with these requirements.

Appendix A
Insurance Requirements
(Risk Mgmt to evaluate risk by project and report needed insurance
limits to Lewis River Project Coordinator)

1. INSURANCE

Without limiting any liabilities or any other obligations of [CONTRACTOR], [CONTRACTOR] shall, prior to commencing the Project, secure and continuously carry with insurers having an A.M. Best Insurance Reports rating of A-:VII or better the following insurance coverage:

1.1 Workers' Compensation. [CONTRACTOR] shall comply with all applicable Workers' Compensation Laws and shall furnish proof thereof satisfactory to PacifiCorp prior to commencing the Project.

All Workers' Compensation policies shall contain provisions that the insurance companies will have no right of recovery or subrogation against PacifiCorp, its parent, divisions, affiliates, subsidiary companies, co-lessees, or co-venturers, agents, directors, officers, employees, servants, and insurers, it being the intention of the parties that the insurance as effected shall protect all parties.

1.2 Employers' Liability. Insurance with a minimum single limit of \$1,000,000 each accident, \$1,000,000 disease each employee, and \$1,000,000 disease policy limit.

1.3 Commercial General Liability. The most recently approved ISO policy, or its equivalent, written on an occurrence basis, with limits not less than \$1,000,000 per occurrence/ \$2,000,000 general aggregate (on a per location and/or per job basis) bodily injury (with no exclusions applicable to injuries sustained by volunteers working or participating in the Project) and property damage, including the following coverages:

- a. Premises and operations coverage
- b. Independent contractor's coverage
- c. Contractual liability
- d. Products and completed operations coverage
- e. Coverage for explosion, collapse, and underground property damage
- f. Broad form property damage liability
- g. Personal and advertising injury liability, with the contractual exclusion removed
- h. Sudden and accidental pollution liability, if appropriate
- i. Watercraft liability, either included or insured under a separate policy

1.4 Business Automobile Liability. The most recently approved ISO policy, or its equivalent, with a minimum single limit of \$1,000,000 each accident for bodily injury and property damage including sudden and accidental pollution liability, with respect to [CONTRACTOR]'s vehicles whether owned, hired or non-owned, assigned to or used in the performance of the Project.

1.5 Umbrella Liability. Insurance with a minimum limit of \$4,000,000 each occurrence/aggregate where applicable to be provided on a following form basis in excess of the coverages and limits required in Employers' Liability insurance, Commercial General Liability insurance and Business Automobile Liability insurance above. [CONTRACTOR] shall notify PacifiCorp, if at any time their minimum umbrella limit is not available during the term of this Agreement, and will purchase additional limits, if requested by PacifiCorp.

In addition to the requirements stated above any and all parties providing underground locate, engineering, design, or soil sample testing services including [CONTRACTOR], subcontractor and all other independent contractors shall be required to provide the followings insurance:

Professional Liability: [CONTRACTOR] (or its contractors) shall maintain Professional Liability insurance covering damages arising out of negligent acts, errors or omissions committed by [CONTRACTOR] (or its contractors) in the performance of this Agreement, with a liability limit of not less than \$1,000,000 each claim. [CONTRACTOR] (or its subcontractors of any tier) shall maintain this policy for a minimum of two (2) years after completion of the work or shall arrange for a two (2) year extended discovery (tail) provision if the policy is not renewed. The intent of this policy is to provide coverage for claims arising out of the performance of work or services contracted or permitted under this Agreement and caused by any error, omission for which the [CONTRACTOR] its subcontractor or other independent contractor is held liable.

Except for Workers' Compensation insurance, the policies required herein shall include provisions or endorsements naming PacifiCorp, its affiliates, officers, directors, agents, and employees as additional insureds.

To the extent of [CONTRACTOR]'s negligent acts or omission, all policies required by this Agreement shall include provisions that such insurance is primary insurance with respect to the interests of PacifiCorp and that any other insurance maintained by PacifiCorp is excess and not contributory insurance with the insurance required hereunder, provisions that the policy contain a cross liability or severability of interest clause or endorsement, and that [CONTRACTOR] shall notify PacifiCorp immediately upon receipt of notice of cancellation, and shall provide proof of replacement insurance prior to the effective date of cancellation. No required insurance policies, except Workers' Compensation, shall contain any provisions prohibiting waivers of subrogation. Unless prohibited by applicable law, all required insurance policies shall contain provisions that the insurer will have no right of recovery or subrogation against PacifiCorp, its parent, affiliates, subsidiary companies, co-lessees, agents, directors,

officers, employees, servants, and insurers, it being the intention of the Parties that the insurance as effected shall protect all parties.

A certificate in a form satisfactory to PacifiCorp certifying to the issuance of such insurance shall be furnished to PacifiCorp prior to commencement of the Project by [CONTRACTOR] or its volunteers or contractors. If requested, [CONTRACTOR] shall provide a copy of each insurance policy, certified as a true copy by an authorized representative of the issuing insurance company, to PacifiCorp.

[CONTRACTOR] shall require subcontractors who perform work at the Project to carry liability insurance (auto, commercial general liability and excess) workers' compensation/ employers' or stop gap liability and professional liability (as required) insurance commensurate with their respective scopes of work. [CONTRACTOR] shall remain responsible for any claims, lawsuits, losses and expenses including defense costs that exceed any of its subcontractors' insurance limits or for uninsured claims or losses.

PacifiCorp does not represent that the insurance coverage's specified herein (whether in scope of coverage or amounts of coverage) are adequate to protect the obligations [CONTRACTOR], and [CONTRACTOR] shall be solely responsible for any deficiencies thereof.

Appendix A **Questions asked from USFS Lewis River 21 Phase II Pre-Proposal**

WDFW- Written questions for USDA Forest Service, Lewis River 21 Phase II

- 1) The Lewis River Reach 21 was selected from the Lewis River Aquatic Fund Priority Reaches (2016 version) and is ranked as a LCFRB tier 2 reach. For spring Chinook, the reach was ranked as 11th with key habitat listed as the primary reach limiting factor. Other higher ranked LCFRB tier 1 reaches such as Lewis River 18 and 19 had a reach rank of 1 and 7, respectively, for spring Chinook. Lewis River 21 reach was selected as its life history use is spawning, rearing, and migration for spring Chinook whereas Lewis River Reach 17 and 18 life history use for spring Chinook is holding, rearing, and migration.

The Little Creek restoration project at the upstream boundary of the Lewis 21 Reach has had restoration work completed in 2014. Chinook have recently been observed spawning in this tributary during a 2017 fall site visit.

Cowlitz Tribe- Written questions for USDA Forest Service, Lewis River 21 Phase II

- 1) Using the Washington State Department of forestry Hydraulics Overview and the USGS Pier-Scour Equation Evaluation for Coarse Bed Streams, the Colorado State University/HEC 18 Jones pier scour equation was selected to use for the apex jam scour calculations. This equation was selected because it has been found to be reliable in estimating pier scour depths, when compared to field data measurements, than several other existing equations. This is due to the correction factor (K4) that accounts for scour hole armoring in a gravel bed that the other sand bed equations lack (WADNR 2004, USSG 2004).

$$d/y_1=2.0K_1K_2K_3K_4 (b/ y_1)^{0.65}Fr^{0.43}$$

Where:

$y_1=1\text{m}$ (depth of water upstream of obstruction)

$b=10.0\text{m}$ (width of obstruction)

$Fr=0.55$ (Froude number)

$K_1=0.9$ (correction factor)

$K_2=1.0$ (correction factor)

$K_3=1.1$ (correction factor)

$K_4=0.7$ (correction factor)

Peak flow estimate for the project area were obtained from USSG gage (#14216000) and verified using USSG StreamStats to obtain discharge estimates. Froude number was obtained by using discharge and cross sectional mean depth at Q50 discharge. Resulting scour depths calculated for the apex jams are 15.7-16 feet. If those depths cannot be reached during project implementation, adjustments to the structure widths can be made to accommodate the onsite conditions.

Appendix B

Questions asked from USFS Lewis River 21 Phase II Final Draft Proposal

WDFW- Written questions for USDA Forest Service, Lewis River 21 Phase II

Comment 1. Final proposal should be standalone proposal. Be sure to include all information from pre-proposal that should be considered in the evaluation.

Information from the Pre-Proposal and Power Point Presentation have been included in the Final Proposal.

Comment 2. Aerial photos with the location of the proposed structures along with existing jams should be included in the final proposal.

Aerial photos have been included in the Final Proposal (Figure 1 and 3). These have been included in the Pre and Final Proposal compilation. The existing wood jams are non-embedded pieces of wood on the surface of the vegetated island at the same location where the Apex large wood structures are designated.

Comment 3. Background section: should include info about Lewis River Phase I and any common objectives/relationship to proposed Phase II project

Lewis River 21 Phase I objectives were similar to Phase II. Lewis River 21 Phase I objectives were to provide quality spawning, summer rearing and overwintering habitat. The woody material would also create high quality hiding cover and increased residual pool depths in the side channel. Structures will facilitate gravel sorting by reducing bed shear stresses and thus increasing spawning opportunities for Chinook salmon in the

mainstem reach. As stated in the Lewis River 21 Phase I Final Proposal, 'This phase of work will be the first of three expected phases within the Lewis River Reach 21 due to the contractual timing constraints and the staging of material to complete the construction. Phase 2 and 3 will occur upstream on the river right side channel and upstream of that, respectively.

The lower extent of influence of the Phase II log complexes is separated by approximately 1000' from the Phase I complexes. Smaller sized substrate within the mainstem pool tail crests created by the log complexes in Phase II are immediately upstream of the Phase I river segment. The northern floodplain area, where the small channels will be inundated more frequently, drain below Lewis River 21 Phase 1 a natural knick point at the confluence with Rush Creek.

Comment 4. Where are the existing wood complexes in relation to the four new structures being constructed? What will happen to the existing structures i.e. will they be dismantled then rebuilt?

The existing wood on the vegetated island were deposited from the 50 year high flow event in December 2015 and are located in the same area that the upper Apex Jam will be constructed. Figure 3 shows the wood in relation to the channel. These pieces of wood are not imbedded in to the channel and are highly mobile in nature. If these pieces are still in place during implementation they will be incorporated into the constructed structures unless the wood is not structurally sound in which case, they will be used as floodplain roughness elements and or mulch for soil disturbance.

Comment 5. Keep tasks and task numbers consistent throughout the proposal (page 4 and page 10, etc.). Task 1: NEPA and required permits. Please clarify under Task #1: is the NEPA complete or still in process? Is the field work for NEPA document or the field work for the project that is covered in the NEPA? If it's the NEPA document, what type of information needs to be collected? Also, how does Lewis River Phase 1 decision memo relate to Phase 2?

Field work necessary for NEPA has been completed by resource specialists in soils, recreation, wildlife, fisheries, hydrology, and heritage. NEPA documentation will be completed in March 2018.

Phase I decision memo is separate to the Phase II decision memo.

Comment 6. Task 3: Project Implementation (Page 5) – For Task #3, it appears the Scope of Work for equipment and labor bids will be written (Is this Project Mgmt in budget?), then the contract administrator will monitor invoices, etc. for the contract (paperwork). \$20,000 (\$10,000 ACC) has been budgeted for Contract Administration. This seems like a large amount of funding for contract administrator responsibilities. Please clarify the job responsibilities for the contract administrator in the final proposal.

The Scope of Work for equipment and labor bids is included as Contract Administration. Contract administration includes Contract Officer Representative's contract preparation, solicitation, selection, pre-work meetings, daily site visits, project documentation, and

administration (implementation). The Forest Service Contract Officer has ultimate financial responsibility for a FS contract and provides legal financial responsibility and associated required documentation.

Comment 7. (Page 5 and 6) Methods - If NEPA is not relevant for tipping trees, modify the first paragraph in Methods.

Cedar or Douglas fir (less than or equal to 36" DBH) from the immediate riparian area – What is the minimum dbh? Also what would be the impact from removing 10 – 12 trees with up to 36" dbh from the riparian area? Will there be impacts to shade, temperature or canopy cover over the river? I'm assuming this is the riparian area of Reach 21, if not identify the location of the "immediate riparian area" and any impacts. I'd like to understand the tradeoff between removing trees and improving LWD in Reach 21.

Tree tipping is covered under NEPA. Tree tipping is an activity covered under ARBO II programmatic consultation with the USFWS and NOAA. Consultation is required for NEPA.

RAT report (Page 2) states wood from the adjacent riparian stands would be greater than 36" dbh and later on page 11 up to 36" dbh. The proposal is less than or equal to 36" dbh. Is it greater than or less than? Provide a note in the proposal identifying the discrepancy in the RAT report and confirming the intended size range.

A timber stand and wildlife assessment made by the district silviculturist and wildlife biologist, respectively, have approved the tipping of trees under the ARBO II NOAA and USFWS programmatic consultation. As such, full length trees, 24" to 36" DBH, will be obtained from the immediate riparian areas and will be used to increase structure durability.

Individual trees identified for tipping will be interspersed among the 30 acres, be within denser tree clumps and therefor minimal reduction in shade and canopy cover to the riparian area structure as a whole is expected. Effects to shade within the riparian area specified will be temporary and minimal as the remaining tall tree lateral branches will grow to fill in the newly created gap and understory vegetation will also grow as an adjustment to the additional light. The multistoried structure of the stand allows for the reduction of individual trees with minimal reduction of shade as the multistoried structure creates shade from the combination of tallest trees, smaller deciduous tree species and bushes.

The RAT report statement on page 5 is a typo. Trees tipped will be 24" to 36" DBH.

Comment 8. What is the cfs for 2017 base flow?

Base flow for the project area is approximately 300 cfs.

LCFRB- Written questions for USDA Forest Service, Lewis River 21 Phase II

- 1) Both figures 1 and 2 in the full proposal document show the right bank side channel bed elevation as higher than the current main channel bed elevation. The proposed apex and bank structures would engage with flows in the main channel at elevations much lower than the side channel. Diversion of flow into the side channel would only occur at approximately bankfull (Q1.2) or higher flows. By constraining channel forming flows in the main channel up to bankfull elevation, what is the risk of causing vertical channel incision that could further disconnect side channel habitat? Is excavation proposed to ensure side channels will be activated at less than bankfull flows? If so, this should be shown in the project drawings. It is important to engage side channels at flows both above and below bankfull elevations because of the year-round needs of reintroduced species for complex, off-channel rearing and spawning habitat.**

Excavation of the inlets to the small channel entrances to the floodplain will be at elevations to allow for bankfull or higher flows. We have changed Figure 4 title to more accurately describe the proposed actions. We recognize the importance to engage these small channels in the floodplain at flows below bankfull elevations and will re-evaluate the inlet elevations during the Lewis River Phase III Design and after risk to the trail can be addressed and implemented.

- 2) The full proposal form should be a stand-alone document that includes all project information from the proposal as well.**

Information from the Pre-Proposal and Power Point Presentation have been included in the Final Proposal.

- 3) The functional relationship between this project and the completed project downstream is unclear. Are there specific design elements of this project intended to maintain or improve functions of the downstream project? Is additional work needed to maintain target flow paths between the two projects? Are additional phases planned for this project area? If so, please describe how the proposed work relates to overall expected habitat outcomes.**

Design elements of this project are not intended to maintain functions of Lewis River Phase I. Proposed work for this project will complement the funded Phase I design by reducing mainstem flows in the Phase I project area. As designed the flow reduction would be reduced by approximately 20% thus reducing shear stresses on the Phase I project area allowing for an increase in spawning gravel deposition. No additional work will be needed to maintain target flow paths (riffle) between the two project areas. Yes, Phase III is planned upstream of Phase II. Phase III will be the upper extent of the Lewis River 21 reach and may extend into Lewis River 22.

Cowlitz Tribe- Written questions for USDA Forest Service, Lewis River 21 Phase II

The full proposal should encompass all proposed actions, design details, processes, etc. For example, the proponent described proposed actions (e.g., side channel excavation) during the January meeting that were not included in the proposal. It was not clear whether this was an omission or an evolution in approach. Along the same lines, answers provided to individual questions should be incorporated into the full proposal (as well as noted in an attachment). While responses to the pre-proposal questions were provided, they did not appear to have been fully integrated into the proposal. For instance, pier scour calculations were provided that indicated maximum probable scour would be approximately 16'. While the conceptual drawings appear to have been updated by changing scour depths, the construction details do not appear to have changed (e.g., individual logs now appear to be approximately 3-7' diameter, and the 13' structure height appears nearly 50% greater than the 16' embedment depth). These would not ordinarily qualify as preliminary designs as described in the narrative. Will the greater structure depths change construction techniques? Materials quantities? Likely outcomes?

Information from the Pre-Proposal and Power Point Presentation have been included in the Final Proposal. Clarification of the proposed actions specific to the excavation was clarified in Figure 4. The project drawing have been updated to include construction details associated with a greater scour depth excavation. The updated scour depths will not alter construction techniques. Estimated material quantities to provide the additional depth are negligible and have been accounted for in the initial estimate. The likely outcome of the additional scour depth would be a larger footprint for excavation of log complexes and will be mitigated by isolation with turbidity fence/curtains and pumps if needed.

Bank stabilization may not be the most appropriate approach at this location, and the proposal does not adequately describe the rationale for stabilizing the bank. Eroding banks are not necessarily detrimental, especially in undeveloped locations. Additionally, even if stabilization is desirable, the proposed bank stabilization structure may eventually exacerbate erosion without vertical members for stability and more detailed analysis to determine causal factors in the rapid channel erosion.

Bank stabilization is not the primary intent for the structure but a secondary outcome that ties into the limiting factors given for the reach. The bank structures main intent is to complement the apex structure to occupy a given area of cross-sectional area that would maintain function to the side channels in the floodplain. Vertical piles are usually constructed within the bank structure framework. That detail was omitted unintentionally.

As discussed in the January ACC meeting, the cross sections provided in the full proposal suggest that structure placement may encourage greater scour, rather than floodplain interaction, depending on several factors, one of which is whether pre-excavation occurs in side channel areas. The proponent stated that recreational resources may be impacted by excavation, which suggests that if the project functions as designed (regardless of excavation), recreation resources may be constraining. This should be fully explained.

Local scour will occur through constriction scour between the bank and apex structures and the constriction will raise the hydraulic gradient upstream of the two bank and apex structures to maintain side channel function in the long term.

Costs in the budget should be justified, per conversations at the January meeting.

Cost analysis within the budget have been adjusted to provide better clarity on where the monies are being spent.



REGION 6 RESTORATION ASSISTANCE TEAM (RAT)
Regional Assistance Team Report for Lewis River Reach 21
Phase II, Gifford Pinchot National Forest

November, 2017

File Code: 2600

Date: November 9, 2017

Subject: November 2, 2017 R6 Restoration Assistance Team (RAT) Field Reconnaissance of the Lewis River Reach 21 Phase II Project on the Gifford Pinchot National Forest

To: Ruth Tracey, Greg Robertson

Cc: Scott Peets, Jim Capurso, Brian Staab, Paul Powers, Cari Press

We would like to thank the Gifford Pinchot National Forest for the opportunity to visit this impressive landscape and provide input on an exciting project. The RAT was hosted by Ruth Tracy, Greg Robertson and Bryce Michaelis, the visit was made by Paul Powers, Fisheries Biologist from the Deschutes National. This report documents our observations in the field and recommendations for the project area.

Observations

Lewis River

We reviewed Lewis River 21 Phase II on the Lewis River near the confluence with Rush Creek. The stated goals of the project are to increase habitat complexity, retain alluvial contributions from Rush Creek, and improve flow interaction with relic channels on river right of the Lewis River near the confluence with Rush Creek through the addition of large woody material. Proposed large wood additions would include whole length trees acquired from adjacent riparian stands (greater than 36" DBH) as well as approximately 200 pieces of greater than 12" dbh material. Large wood would be assembled into bar/island formation jams as well as bank jams. The objective being the displacement of flow volume from the main stem Lewis River and thereby activation of relic flow paths on river right (looking downstream).

As we walked down Rush Creek to the confluence with the Lewis River (downstream end of Lewis River 21), it was immediately apparent that the Lewis River had incised over the past several decades and become largely disconnected from the historic surfaces (Fig. 1). This was visible in the surface on river right across from the Rush confluence where the USFS had recognized the need to reconnect relic channels (Fig. 2). Indicators of incision include abrupt hydraulic jumps from tributaries to the mainstem river (Fig. 3), large substrate sizes in the bed, and simple habitats within the mainstem channels (Fig. 4). Some mid-channel bars with young alders have formed and some wood has been deposited on these (Fig. 5).



Figure 1. Typical level of disconnect between the Lewis River and the left bank terrace.



Figure 2. Right bank floodplain feature that is the target area for activation of relic flow paths.



Figure 3. Plunge of approximately six feet from Rush Creek alluvial fan to the Lewis River.



Figure 4. Downstream extent of proposed LWD additions to the Lewis River.



Figure 5. Mid-channel bars developing with young alder growth within Lewis River Reach 21.

Back at the office, we looked at the LiDAR surface of this reach. From the LiDAR data numerous relic channels are visible in the project area and upstream of the project area on both river right and left in the disconnected floodplain (Fig. 6). To evaluate the level of separation between the Lewis River and adjacent flow paths and floodplain surfaces, a newly developed method of comparing relative elevations was used called the PowerSlope. Using the valley centerline, raw elevations from the 2016 LiDAR set were used and a third order polynomial equation was generated (best fit line), which is the best fit trend line describing the valley slope (Fig. 7).

Using the PowerSlope, we can evaluate the surfaces found within the valley relative to this trendline. This information can be mapped using the Relative Elevation Model (REM), also recently developed for this purpose. The REM is color coded to show how much existing surfaces are above or below the PowerSlope. Elevations that match the PowerSlope are blue, elevations above the PowerSlope are warm colors, and elevations below the PowerSlope are shades of pink (Fig. 8).

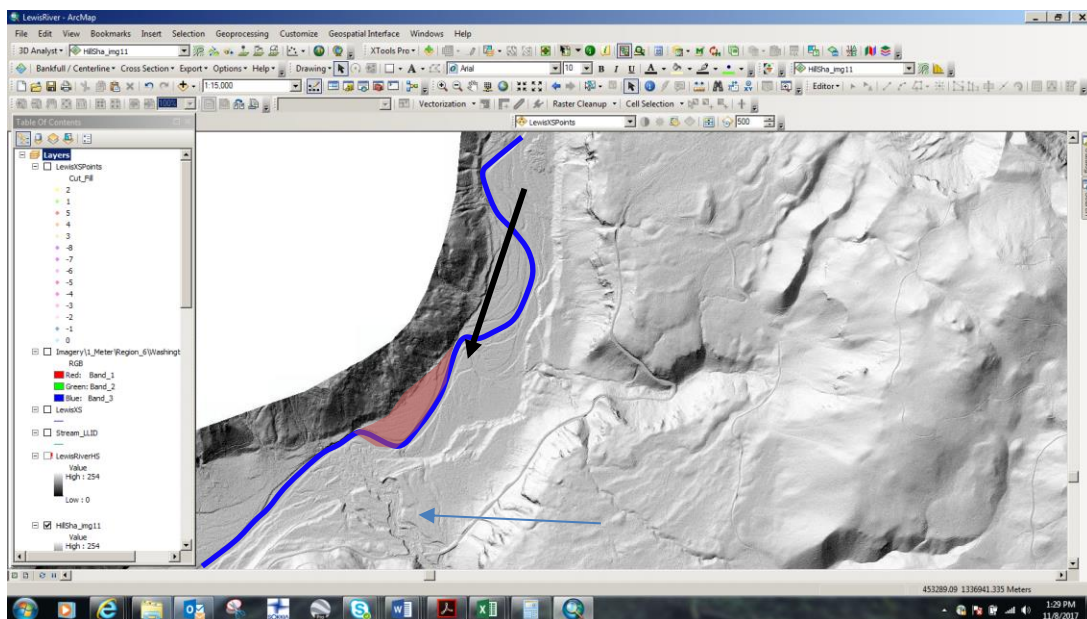


Figure 6. Hillshade LiDAR with main stem Lewis River depicted with blue line, Rush Creek at arrow and target surface/channels for wetting with the proposed project.

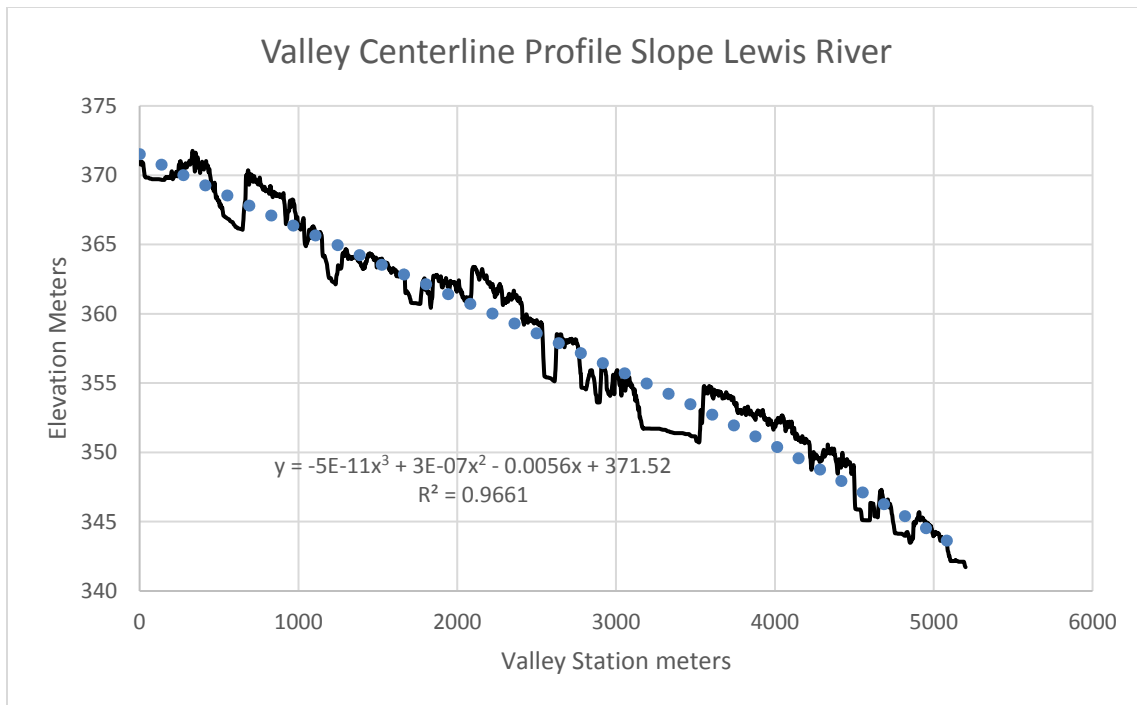


Figure 7. PowerSlope equation developed for the project reach review along the Lewis River.

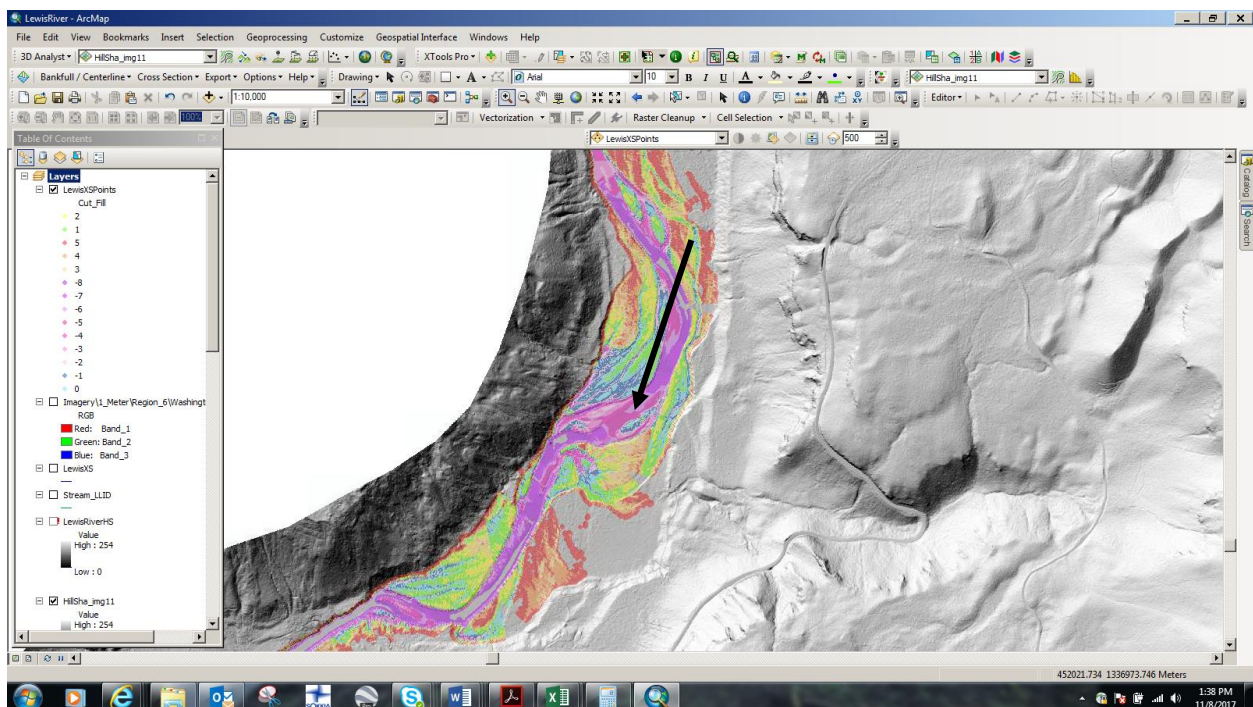


Figure 8. Relative Elevation Model map of the Lewis River Project Valley. Legend for color codes is displayed in the GIS table of contents at the left.

Evaluating elevations along the Lewis River relative to the valley slope shows both the level of incision of the river, as well as, how much lift would be required to activate the relic channels on the disconnected floodplains in the project reach and upstream. While the existing relic channel elevations generally sit at or two feet below the PowerSlope elevation, the water surface of the Lewis River Reach 21 is up to seven feet lower than the PowerSlope elevation. Furthermore, a berm-type feature that blocks the entrance to the relic channels is one to three feet above the PowerSlope elevation (Fig. 9). Therefore, the bed of the Lewis River would have to be significantly aggraded to restore perennial connection to these channels, as well as, the physical blockage of flow into these channels would have to be removed. This can also be seen when looking at a simple valley cross section through this area (Fig. 10).

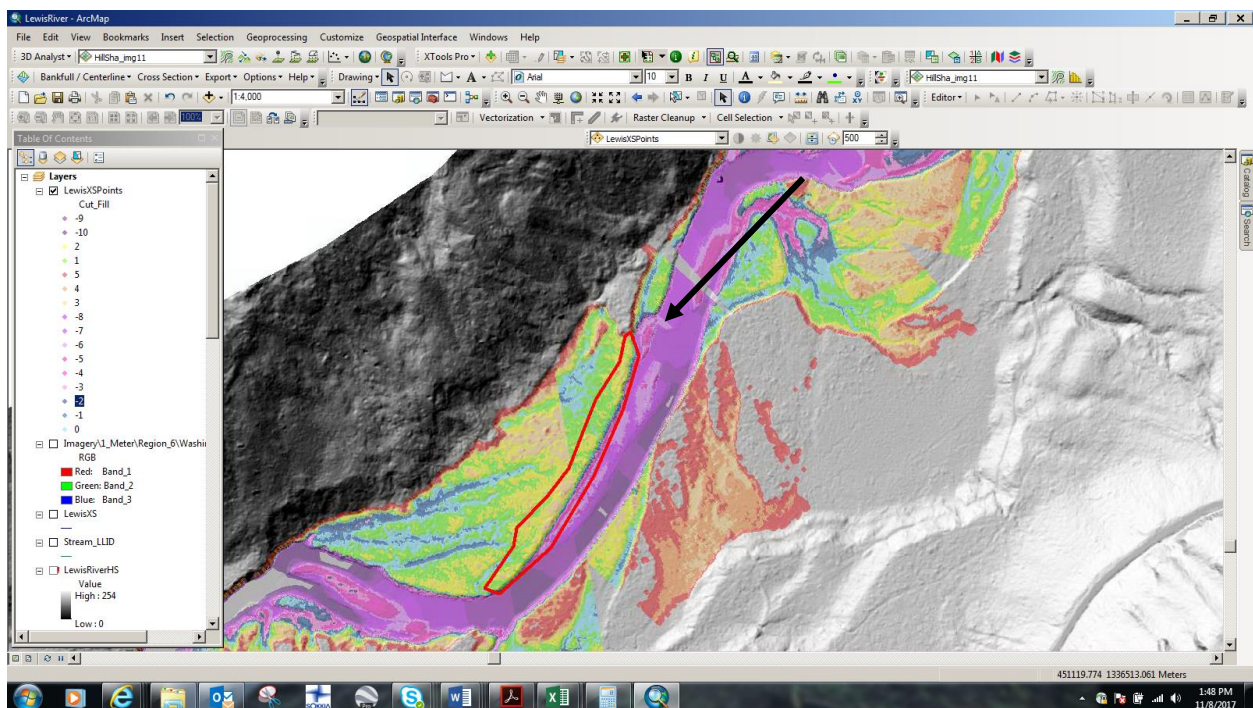


Figure 9. Zoom in showing the material blocking access to the relic channels on river right (area within red box).

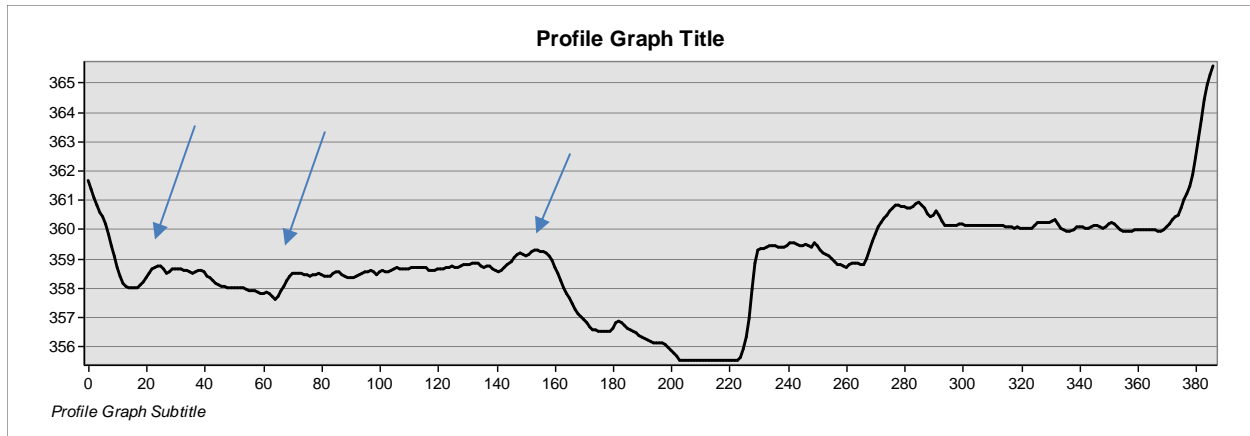


Figure 10. Valley cross section depicting the elevation of target channels (meters) at approximate stations of 15 and 60 meters as well as berm feature at station 160 meters, and the water surface of the Lewis River at 200-225 meters. X and Y axis depicted in meters.

The Lewis River in the project reach is in an unconfined depositional valley and has been converted into a transport reach by incision and disconnection from its historic surfaces. The Lewis River Reach 21 appears to be incised several feet below a fully connected valley floor when evaluating based on the Channel Evolution Model developed by Cluer and Thorne (2013), can be represented as being at Stage 3 (Fig. 11). Connection to the historic and seasonally wetted channels on the floodplain surface would be representative of Stage 0. Achievement of this condition would require several feet of lift within the Lewis River. If this were to occur, the Lewis River valley could expect all the biological and geomorphic benefits associated with a stream at Stage 0 (Fig. 12).

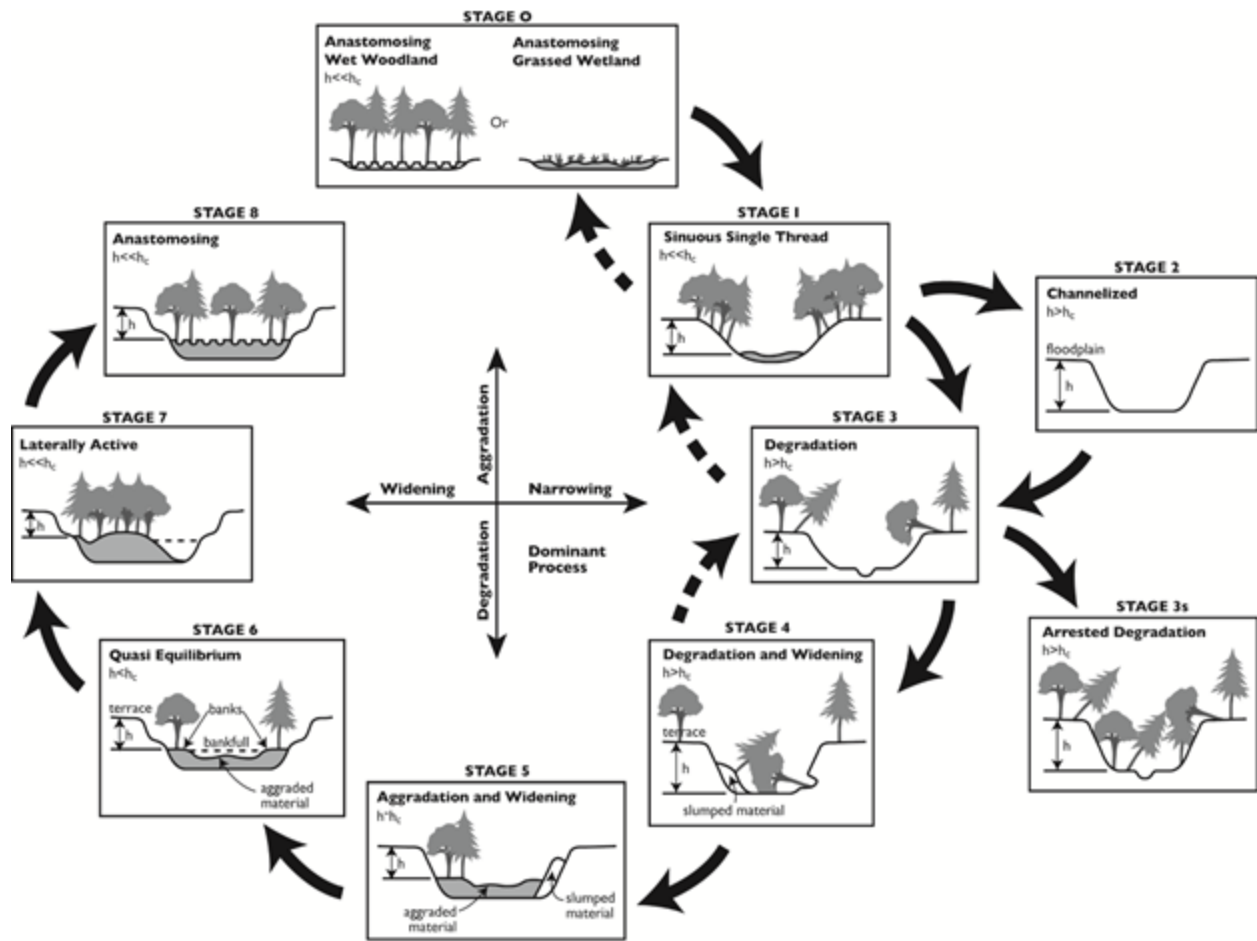


Figure 11. Stream Evolution Model (SEM) developed by Cluer and Thorne 2013.

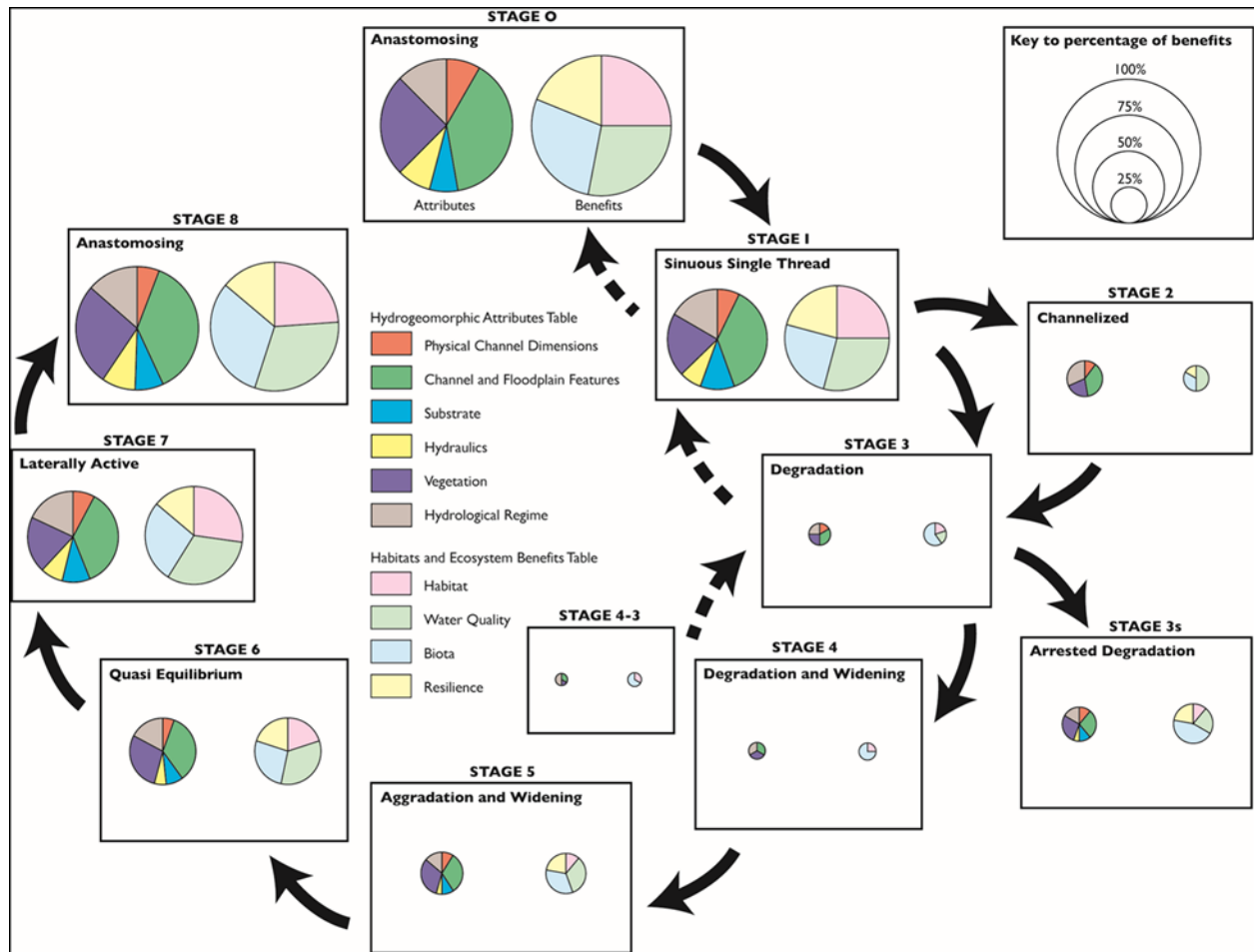


Figure 12. Cluer and Thorne schematic showing the hydrogeomorphic and habitat benefits associated with each stage of the SEM (2013).

Recommendations

We think that the project as proposed would improve connectivity to disconnected surfaces and channels as well as provide some much needed habitat complexity within Lewis River Reach 21. The proposed placement of LWD with the addition of key members (up to 36 inch dbh) would provide the roughness needed to displace some amount of water volume and seasonally wet, to some extent, disconnected channels on river right. The proposed construction technique has proven effective at displacing flow, promoting pool formation and promoting the deposition of alluvial substrates around and behind the structure.

We do not advocate that modelling scour depths provide more accuracy than field measurements. A bedrock controlled scour pool exists in the middle of this project area and measured as 8 feet residual depth. We suggest actual measurements such as the scour pool at this location are the most accurate predictors of maximum scour pool depth.

Given the track record of the proposed approach as well as the practitioners involved in the project development, it seems highly likely that the proposed project would be effective at improving mainstem Lewis River habitat including pool formation and deposition of alluvial substrates as well as improving connectivity with the disconnected historic surfaces.

We also recommend maximizing the extent and duration of the connectivity initiated with this proposed project by suggesting additional projects to move the Lewis River to Stage 0. If we presume that the historic conditions found within the valley of the Lewis River resembled the illustration in figure x, and that the current conditions resemble the illustration in figure y, then the degree of departure from historic conditions can be established and a larger scale recovery plan developed. Given that the Lewis River is currently at Stage 3 and resembles the conditions depicted in Figure x, the amount of time needed to reach Stage 0 without direct intervention could be decades or centuries.

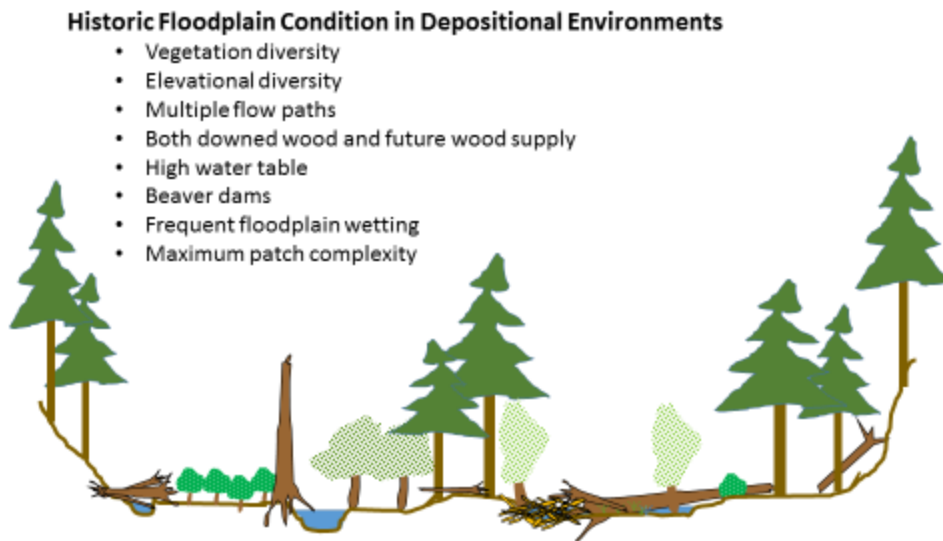


Figure 13. Rendering of historic depositional valleys within the Pacific Northwest, Hogervorst, 2016.

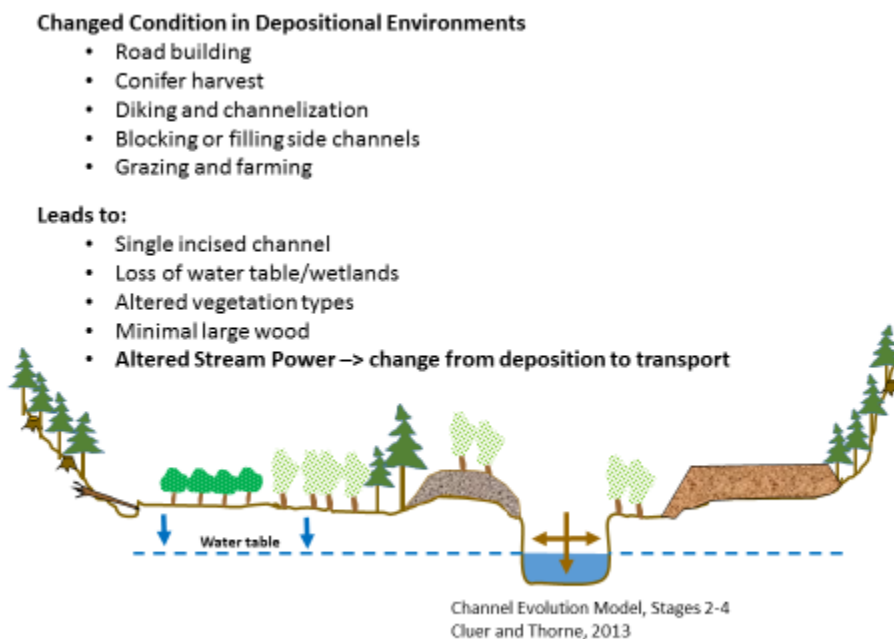


Figure 14. Rendering depicting current conditions within degraded river valleys of the Pacific Northwest. Hogervorst, 2016.

Restoration Solutions

Valley bottom, process-based restoration (2005 to present)

Advantages:

- Process and function fully addressed for entire floodplain
- Water table restored
- Template created for native vegetation recovery
- Patch complexity maximized with dynamic change anticipated over time
- Large storms welcome (stream energy addressed)

Disadvantages:

- High level of disturbance initially – turbidity during construction
- Tough to monitor with traditional surveys
- Social acceptance for a new technique

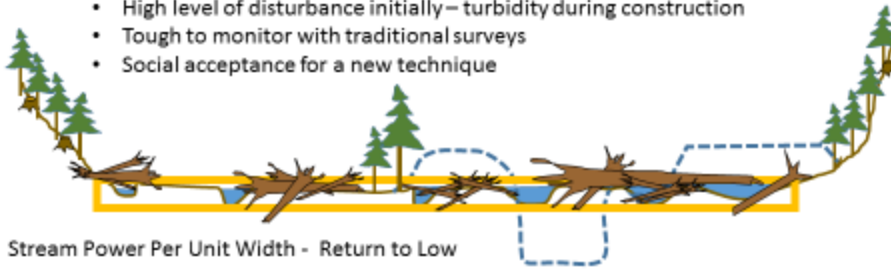


Figure 15. Illustration depicting pre-project surface (blue dashed line) and the constructed new surface which includes multiple flow paths, large wood jams and an elevated alluvial aquifer. Hogervorst, 2016.

Specifically, we recommend aggrading the Lewis River to the PowerSlope elevation. Reconnecting the adjacent valley floor surface by aggrading the bed and removing floodplain and relic channel constrictions significantly reduces unit stream power allowing gravels and silts to deposit on the bed and floodplain. To maintain this elevation, the river should be aggraded at least 2 meander bends upstream or further (extends into Lewis River Reach 22) to allow the river to release its energy on the larger floodplain surfaces. Immediately downstream of the Rush Creek confluence, the Lewis River has cut down to bedrock and this is a good area to develop as a grade tie in location. Reinforcing this grade control with large wood structure is recommended which we understand is planned for in the Lewis River 21 Phase I project scheduled for implementation in the summer of 2018.

If the Stage 0 approach depicted in the Channel Evolution Model developed by Cluer and Thorne (2013) is something the Gifford Pinchot NF would like to pursue further, we would be happy to work with you to better understand the REM and expand the restoration of Lewis River Reach 21 and 22. To better understand the historic condition, it might be helpful to obtain historic aerial images of the project area (although the incision may have happened prior to the earliest photos) (to obtain historic images: <https://earthexplorer.usgs.gov/>). Also, it may be useful to load the REM pdf map of the Lewis River on your tablet to field verify the relic channels and floodplain constrictions.

We greatly enjoyed our time exploring this project area both in the field and in the office. If the Forest has any questions on our recommendations or has need for additional help during design or implementation, please feel free to contact us.

References:

Cluer B. and C. Thorne. 2013. A stream evolution model integrating habitat and ecosystem benefits. River Research and Applications 30: 135-154.

Sincerely,

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